DOCUMENT RESUME

ED 440 292 CE 080 065

AUTHOR	Harris, Howard
TITLE	Defining the Future or Reliving the Past? Unions, Employers, and the Challenge of Workplace Learning. Information Series No. 380.
INSTITUTION	ERIC Clearinghouse on Adult, Career, and Vocational Education, Columbus, OH.
SPONS AGENCY	Office of Educational Research and Improvement (ED), Washington, DC.
PUB DATE	2000-00-00
NOTE	70p.
CONTRACT	ED-99-CO-0013
AVAILABLE FROM	Center on Education and Training for Employment, Center Publications, 1900 Kenny Road, Columbus, OH 43210-1090 (Order No. IN380, $8.50). Tel: 614-292-4277; Tel: 800-848-4815, ext. 24277 (Toll Free); Fax: 614-292-1260; Web site: http://cete.org/products/index.html. For full text: http://www.ericacve.org/fulltext.asp.
PUB TYPE	ERIC Publications (071) -- Opinion Papers (120)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	Adult Education; Adult Learning; Case Studies; *Corporate Education; Economic Change; *Education Work Relationship; Educational History; Educational Needs; Educational Objectives; Educational Policy; Educational Research; *Educational Trends; Employer Employee Relationship; Employment Practices; Human Capital; *Industrial Training; Innovation; Job Training; Labor Force Development; Lifelong Learning; Literature Reviews; Needs Assessment; Organizational Change; Organizational Development; Partnerships in Education; Private Sector; Research Needs; *School Business Relationship; State of the Art Reviews; Training Methods; Trend Analysis; *Unions; Work Environment
IDENTIFIERS	*Learning Organizations

ABSTRACT

This document examines the current state of workplace learning within the context of the changing workplace of the late 20th century. The document begins with an overview of the evolution of employer-dominated training from Taylorism to the rise of human resource development during the late 1970s and 1980s. The development of the concepts of organizational learning and learning organizations is examined, and the differences between traditional training and training in learning organizations are highlighted. Also discussed are the extent of workplace organization in the United States, the current scope of private sector training and organizational learning, and the relationship between the purpose and implementation of training. The need for worker-centered learning is explained, and the uneasy ties between worker's education and adult education are explored. Examples of specific training initiatives of organized labor in the auto industry and elsewhere are used to consider the question of whether labor's participation in the design and delivery of workplace learning changes its scope and nature. The need for solid quantitative and qualitative research to determine whether organizational learning is compatible with the competitive demands of global free enterprise

Reproductions supplied by EDRS are the best that can be made
from the original document.

and whether worker-centered learning is a viable alternative to organizational learning is emphasized. (Contains 143 references.) (MN)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 440 292

Defining the Future or Reliving the Past?

Unions, Employers, and the Challenge of Workplace Learning

Information Series No. 380

by Howard Harris

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ERIC®
Clearinghouse on Adult, Career, and Vocational Education

BEST COPY AVAILABLE

Defining the Future or Reliving the Past? Unions, Employers, and the Challenge of Workplace Learning

Information Series No. 380

Howard Harris
Pennsylvania State University

ERIC Clearinghouse on Adult, Career, and Vocational Education
Center on Education and Training for Employment
College of Education
1900 Kenny Road
Columbus, OH 43210-1090

2000

Funding Information

Project Title:	ERIC Clearinghouse on Adult, Career, and Vocational Education
Contract Number:	ED-99-CO-0013
Act under Which Administered:	41 USC 252 (15) and P.L. 92-318
Source of Contract:	Office of Educational Research and Improvement U.S. Department of Education Washington, DC 20208
Contractor:	Center on Education and Training for Employment The Ohio State University Columbus, Ohio 43210-1090
Interim Executive Director:	W. Michael Sherman
Disclaimer:	This project has been funded at least in part with Federal funds from the U.S. Department of Education under Contract No. ED-99-CO-0013. The content of this publication does not necessarily reflect the views or policies of the U.S. Department of Education nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.
Discrimination Prohibited:	Title VI of the Civil Rights Act of 1964 states: "No person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." Title IX of the Education Amendments of 1971 states: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving federal financial assistance." The ERIC Clearinghouse project, like every program or activity receiving financial assistance from the U.S. Department of Education, must be operated in compliance with these laws.

Contents

Foreword	v
Executive Summary	vii
Introduction	1
From Industrial Education to Organizational Learning	5
The Evolution of Corporate Training	5
The Great Transition	7
Workplace Learning for the Coming Century	11
Training and Human Resource Development	11
Organizational Learning/Learning Organizations	12
The Changing Workplace	17
The Scope of Workplace Reorganization	17
The Learning Gap	19
Training on Trial	21
Training in Real Time: Case Studies	23
Training and Organizational Ownership	27
Worker-Centered Learning	29
What Role for Workers?	29
Workers' Education/Adult Education–Uneasy Ties	32
Old Wine In New Bottles?	37
Innovations in the Auto Industry	37
Beyond the Auto Makers	41
Worker-Centered Learning?	44
Conclusion	47
References	51

Foreword

The Educational Resources Information Center Clearinghouse on Adult, Career, and Vocational Education (ERIC/ACVE) is 1 of 16 clearinghouses in a national information system that is funded by the Office of Educational Research and Improvement (OERI), U.S. Department of Education. This paper was developed to fulfill one of the functions of the clearinghouse—interpreting the literature in the ERIC database. This paper should be of interest to vocational education teachers and guidance counselors.

ERIC/ACVE would like to thank Howard Harris for his work in preparing this manuscript. Dr. Harris is Assistant Professor in the Department of Labor Studies and Industrial Relations, Pennsylvania State University-New Kensington. He previously served as a regional education director for the Amalgamated Clothing and Textile Workers Union. He has served as treasurer of the University and College Labor Education Association since 1992, and is the author of ***The Keystone of Democracy–A History of Pennsylvania Workers*** and numerous articles and presentations on labor history and education.

The following people are acknowledged for their critical review of the manuscript prior to publication: Anthony Sarmiento, Director, Worker-Centered Learning, AFL-CIO; Paul Jurmo, Executive Director, Learning Partnerships; G. Wayne West, Manager, Workforce Development, State of Ohio; and Janet Spence, Graduate Research Associate, Center on Education and Training for Employment. Susan Imel coordinated publication development. Sandra Kerka edited and formatted the manuscript.

W. Michael Sherman
Interim Executive Director
Center on Education and
Training for Employment

Executive Summary

Within the context of the changing workplace in the late 20th century, this paper examines the current state of workplace learning. It explores the assumptions that new skills are being required, that many workers lack these skills, and that employers must maintain control over the scope and content of work-related education. The paper locates the missing voice of working men and women, represented by organized labor, in the debate over workplace learning.

The paper begins with an overview of the evolution of employer-dominated training from Taylorism to the economic upheavals of the 1970s and 1980s. It discuses the rise of human resource development and the concept of the learning organization. Next, the paper describes the extent of workplace reorganization in the United States, the current scope of private sector training and organizational learning, and the congruence between the purpose and implementation of training.

The need for workplace learning to be worker centered is presented next, addressing the role of workers, labor unions, and adult education. Examples of specific initiatives of organized labor, in the auto industry and beyond, are used to explore the question of whether labor's participation changes the scope and nature of workplace learning. Finally, implications for workers, employers, and policymakers are presented.

Information on workplace learning and worker education may be found in the ERIC database using the following descriptors: Adult Education, Employer Employee Relationship, Job Skills, *Job Training, *Labor Education, *Labor Force Development, *Unions, Work Environment. Asterisks indicate descriptors that are particularly relevant.

Introduction

In a period of intense, rapid, economic change, it is accepted wisdom that large numbers of American wage earners lack the basic work skills that will allow the United States to continue to compete effectively in a new and challenging economic environment. Hardly a day goes by without employers, policymakers, the media or elected officials raising renewed concerns about an ongoing shortage of trained workers. There is far less agreement, however, on exactly what skills are needed, who is responsible for work-related training, and, most important, what is the ultimate goal of workplace learning.

Although these issues have existed since the development of corporation schools in the 1870s, they have assumed new urgency as microelectronic technology and the rise of a truly global economy have fundamentally transformed the nature of work itself. From steel mills to stock markets, from grocery stores to universities, from construction sites to research labs, the way we earn our daily bread has changed dramatically within a historically brief period of time. It is now widely believed that technological capacity and capability have far outpaced vocational competency. A limited segment of mainly young wage earners has fully embraced and thrived on computer-based labor. A majority of workers, however, are still attempting to navigate the waters of change with skill sets rooted in a somewhat earlier, though rapidly receding, era. How the U.S. economy chooses to address the apparent mismatch between future needs and existing competencies will have profound implications for significant numbers of American wage earners in the years ahead.

This monograph examines the current state of workplace learning in a number of forms and contexts. In comparing the pragmatic and ideological implications of some specific models, there is a set of popular assumptions that must be identified. These assumptions have been embraced by most academics, practitioners, and the public at large, as fundamental truths in relation to the need to upgrade workers' skills. They have shaped the institutional responses of employers, unions, and government officials alike. Although their efficacy may well be called into question by some observers, they nonetheless remain the cornerstone of almost all current public policy on work-based education and training.

The paramount assumption in this debate is the notion that the very nature of work has been transformed in the late 20th century. A highly competitive environment has produced a new set of benchmarks by which to measure success or failure. Innovation, speed, quality, and customer satisfaction are the standards by which all work organizations are currently judged. This new workplace requires a new type of employee, one who is highly skilled, flexible, creative, and attuned to working as a member of a team. These desired behavioral traits are in direct contrast to those that arose out of Taylorist principles of scientific management that have guided the U.S. economy for nearly 100 years.

A corollary of the first assumption is that most incumbent, and many entry-level workers, lack the very skill sets necessary to succeed in a modern, technology-based economy. Although there is little substantive, empirical data available to test this assumption, it is widely held. Whether the apparent mismatch between existing and desired skills can be blamed on our systems of elementary and secondary education, a general decline in the work ethic, the alleged "dumbing down" of American society, or increased employer expectations of individual job performance due to technological change and an emphasis on teamwork, there is a strong belief that a majority of wage earners cannot currently meet the basic requirements of today's work environment.

These two assumptions lead to a third. Given the perceived shortcomings of existing education or training institutions, many "skills gap" advocates argue that the private sector must exert greater control over the development and implementation of workplace learning. In some cases, this has resulted in the establishment of self-funded training consortia of corporate universities. A limited number of firms have recast themselves as learning organizations. In most instances, however, employers have moved to shape the future of workplace training by assuming a greater role in the development of public policy. The goal of such efforts is to use social resources to offset the increasing costs of preparing current and future generations of workers. Although there is a general willingness, on the part of employers, to partner with public institutions, they believe that it is critical that they maintain control over the scope and content of work-related education. Unfortunately, space limitations prevent a fuller examination of government-sponsored training initiatives in this monograph.

The desire of corporate officials to shape work force quality has the potential to come into conflict with the fourth major assumption underlying this essay. The very forces that created the perceived skills gap also contributed to the decline of long-term employment security in the workplace. Rapid technological change and pervasive economic volatility drive most employers to reduce labor costs in order to remain competitive. As a result, few employees can expect to remain with a single employer for an extended period of time. It has been projected that future wage earners will change both employers and careers multiple times over the course of their working lives. Their ability to succeed in these varied situations will largely depend on their acquisition of the higher-level job skills identified earlier. Even while employers fret that both incumbent and entry-level workers lack such skills, many of them are reluctant to invest in workplace learning because of the costs involved and the fear that once employees are trained, they will be snapped up by the competition.

Largely absent from the ongoing debate over training is the active involvement of working men and women. The ability of individuals to participate in specific programs or select particular courses of study should not be equated with their having real input into the structure and content of workplace learning. Only where wage earners have an independent voice on the job, such as through union representation, does the possibility exist for them to assume a meaningful role in the actual shaping of work-based education. Although the American labor move-

ment generally shunned such a prospect in the past, it has begun to recognize that education and training are the keys to future employment security for its members.

Increased union involvement in workplace learning has raised important questions for the labor movement. Organized labor has struggled to develop an approach to training that fulfills the needs of employees while allowing employers to retain their competitive edge. This marks a significant departure for most unions. With the exception of the building trades, they rarely viewed education and training as a critical bargaining issue. Unions generally accepted the Taylorist parameters of the workplace in exchange for regular wage and benefit increases. Negotiated job classification systems, based on seniority, provided the major avenue for worker advancement. This well-defined relationship was rooted in the promise of quasi-permanent employment, especially for people working in the nation's basic industries after World War II.

As dramatically changed circumstances since the 1970s turned the American industrial relations system on its head, organized labor has struggled to maintain institutional integrity and traditional commitments to fairness and equity on the job. It has had to walk a fine line between establishing cooperative relationships with employers, on the one hand, while resolving the ongoing conflicts that result from inverse power relationships that still permeate the workplace. Work-based education and training represent one arena within which labor and management have attempted to move beyond traditional, adversarial relations. In order to reach some common ground with employers, however, the labor movement has been forced to develop alternative models of workplace learning that serve as a starting point for negotiations with their management counterparts.

The similarities and differences between the two visions of training will be explored in the pages that follow. In the past, work-based education was specifically geared toward meeting the short-term needs of individual firms. Most of it was targeted to supervisory, sales, and management personnel. Hourly workers generally received only minimal training; most of what they learned was through informal experience on the job. This system was sufficient as long as wage earners were expected to perform only a limited range of discrete tasks defined and organized by engineers or supervisors. As expectations of employee performance have changed, it must be determined whether workplace learning has changed as well.

Do traditional training programs, learning organizations, or corporate universities prepare all employees to be self-directed, creative, workers with marketable skills in multiple job markets or do they replicate, in different forms, the more traditional Taylorist patterns of firm-specific task performance? Does each worker actually help to shape his or her learning experience in line with individual career trajectories, or is the nature and scope of that experience still largely determined by the needs of the organization and its leaders? Is it possible for wage earners to have genuine input into the educational process if they do not have an organized voice, such as a union, in the workplace? Finally, does active union involvement

in training make a difference in terms of preparing workers to function more effectively in a technology-based, global economy?

In order to understand the current world of workplace learning, this essay first takes a look at the evolution of employer-dominated education and training and how the economic changes of the 1970s and 1980s fundamentally altered the discourse among both scholars and practitioners. The next section examines what has happened in the 1990s from both a theoretical and a practical perspective. Popular models of corporate workplace learning are then measured against actual education and training practices in various segments of the economy. The following two sections explore the development of a union-based model of "worker-centered learning" and how it compares with the dominant training modes in use today. Finally, the monograph evaluates the limitations of current information on workplace learning and identifies some possible areas for future research.

From Industrial Education to Organizational Learning

The Evolution of Corporate Training

The course of workplace education and training in the United States directly reflects the long-term evolution of the U.S. economy. Hawthorne (1987) traces that trajectory from a focus on the uneducated factory wage earner to the skilled worker to the more highly educated technical employee of the modern era. At each step in the process, different goals and different methodologies came into play. During the late 19th and early 20th centuries, major industrial corporations such as General Electric and Westinghouse established factory or corporate schools. In addition to providing a general orientation to industrial work, these schools taught everything from basic English to specific, production-related technical skills (Steinmetz 1976).

Recognizing the growing importance of workplace-based training, a number of firms came together to establish the National Society for the Promotion of Industrial Education in 1906. This was followed by the National Association of Corporate Schools in 1913, which was founded by the heads of Western Electric and Standard Oil. This group eventually evolved into the American Management Association (Hawthorne 1987).

One of the reasons for the establishment of the National Association of Corporate Schools was the desire of participating companies to distance themselves from traditional educational institutions. Although they were willing to work with colleges and universities in some areas of management training, they did not want them involved in the education of hourly workers. In part, this attitude was a result of the growing interest in Frederick Taylor's theories of scientific management.

An engineer by training, Taylor believed that there were rational, practical, measurable, solutions to all workplace problems. By their very nature, people with formal, academic training had little taste for the real world. "Young engineering graduates disliked the routine activity of the industrial firm, while manufacturers disliked the condescending manner and uncooperative behavior of the graduates. Both attitudes, he believed, were results of mistaken policies by universities" (Nelson 1980, p. 187).

Frederick Taylor's ambivalence about the relationship of professional educators to the workplace mirrored his contempt for people who were unwilling to embrace the necessity of organizational efficiency. Although Taylor has been lauded and condemned over the years for a host of reasons, Nelson (1980) believes that people often overlook the critical role he played in the development of modern management. "By 1915, professional managers had succeeded financiers and speculators in top management positions and, together with a new generation of

middle managers, had created centrally controlled, bureaucratic enterprises" (p. 201).

Both supporters and critics of Taylor's ideas agree that the control of information was central to his ideas about the organization of production (Braverman 1974; Edwards 1979; Kakar 1970; Kanigel 1997). Under earlier productive systems, individuals and close-knit work groups facilitated or restrained output through their use of knowledge gained on the shop floor. Although this might have been sufficient in an era of hand production and small workshops, Taylor believed that it was totally unsuited for the competitive environment of the late 19th and early 20th centuries. "Thus all of the planning which under the old system was done by the workman, as a result of his personal experience must of necessity under the new system be done by management in accordance with the laws of science; because even if the workman was well-suited to the development and use of scientific data, it would be physically impossible for him to work at his machine and at a desk at the same time" (Taylor 1967, p. 38).

By planning all aspects of the work process, foremen created the opportunity for workers to increase individual output. This would allow each employee to earn as much as his ability would allow. Rather than view this as a mechanism of labor exploitation, Taylor truly believed that his approach was a major step forward in the effort to increase the standard of living for workers. According to Spender (1996) it was the misuse of Taylor's original ideas by others that fatally undermined the positive aspects of scientific management. It was managers "who abused scientific management's promise and methods merely to speed up and to de-skill work and so advance Fordism, the true expression of the belief that workers were machines" (p. 15).

Whoever ultimately was responsible for the mass production system that evolved in the United States during the early years of the 20th century, it became the model for the organization of work in most sectors of the economy. A hierarchical management system planned, directed, and controlled the flow of work. Hourly employees were expected to follow detailed instructions laid out by front-line supervisors. The success or failure of a firm increasingly rested on the quality of that supervision, not the skill of the work force. Companies began to dedicate a large amount of their training resources to salaried employees, especially foremen and, somewhat later, training directors. The former provided on-the-job training whereas the latter provided more specialized forms of workplace learning. The shift away from the corporate school model of providing job-skill training for hourly employees was a logical outgrowth of scientific management in all of its varied configurations.

Taylor and his disciples emphasized total management control over all work processes. By identifying the best way to do specific jobs, engineers attempted to eliminate any employee input into the way work assignments were designed and completed. That kind of environment all but eliminated the need to train employees beyond teaching them how to carry out discrete tasks. Extensive training was required for supervisors, however, since it was up to them to make sure the whole

system worked. Only workers in the building trades and in the skilled trades departments of major manufacturing enterprises continued to receive the kinds of training that would allow them to upgrade individual skill levels consistently.

The need for increased management education was emphasized by the founding in 1942 of the American Society of Training Directors, which later became the American Society of Training and Development (ASTD) (Hawthorne 1987). Management and supervisory training exploded after World War II. The growing importance of the behavioral sciences in understanding people's motives and actions contributed to this growth as did the availability of large numbers of veteran trainers who had gained valuable experience during the war. Corporate personnel departments focused on human relations training and left the development of specific work skills to first-line supervisors on the shop floor.

Most corporate education programs concentrated on such fundamental tasks as orientation, safety programs, supervisory training, and management training. Overcoming Taylor's aversion to institutions of higher learning, many companies used major colleges and universities to train top-level executives whereas internal education departments provided training for other management personnel. Little attention was paid to the needs of hourly employees. The operating assumption of most private sector firms through the 1970s was that it was management's responsibility to organize and direct the flow of work. Wage earners were expected to sell their labor in exchange for wages and benefits. Human resource practices, rooted in such disciplines as psychology or organizational theory, had little relevance to the majority of working men and women who were expected to follow extensive instructions set down by first-line supervisors.

The Great Transition

Taylorism, as the guiding principle of work organization, began to lose some of its luster during the late 1970s and 1980s. Falling corporate profits, increased international competition, and the rapid development of microelectronic technology raised serious challenges to long-held management assumptions and beliefs. This was especially true in such bastions of scientific management as the electronics, auto, and steel industries. Sagging productivity, especially when compared with the output of workers in the emerging economies of Asia and Latin America, forced many people in the United States to admit the unthinkable: superior systems for organizing and managing work had been developed beyond their shores.

Quickly swallowing their national pride, corporate leaders began to seek out and imitate those systems that seemed to offer solutions to their myriad problems. A whole new lexicon developed to describe the changes taking place at work. Lean production, quality circles, fast capitalism, total quality management, teamwork, kaizen, reengineering, empowerment, and other terms achieved widespread usage in both the public and private sectors.

Walton (1985) described some of the changes taking place, especially in manufacturing: "Companies have begun to remove levels of plant hierarchy, increase managers' spans of control, integrate quality and production activities at lower organizational levels, combine production and maintenance operations and open up new career possibilities for workers"(p. 79). Piore and Sabel (1984) labeled this transformation of work "post-Fordism." In their view it was a management-driven system rooted in a multiskilled work force, flexible manufacturing, niche-based marketing strategies, and team approaches to work. Carnevale (1991) identified the linking of flexible, computer-based, technology "with more skilled and autonomous workers and work teams" as a critical aspect of the post-1970s workplace (p. 10). Resources and authority had to be driven to the lowest rungs of the organization in order to satisfy the demands of both internal and external customers.

This led to a flattening of management and the shifting of many supervisory responsibilities onto the shoulders of hourly workers. Cotton (1993), in attempting to bring some order to the study of new work systems, summarized what all of these perceived changes meant. "The notion is that, by involving workers, by having them participate in decision-making, by making the workplace more democratic, and by empowering employees, certain outcomes (e.g., attitudes and productivity) may improve" (p. 13).

One of the most important subtexts embedded in all discussions of workplace change and the need for more extensive training has been the notion of individual empowerment, especially as it applies to hourly wage earners. In the early phases of the quality of work life debate in the 1970s, the idea was put forth that greater individual control over work, through genuine participatory decision making, would have positive outcomes for employees and employers alike (Herrick and Maccoby 1975). By the early 1980s, such advocates of worker involvement and labor-management cooperation as Simmons and Mares (1985) identified increased participation with workplace empowerment: "In the past, management assumed an attitude of noblesse oblige when solving their subordinates problems. But when employees are encouraged to solve their own problems using the managers as resources, a sea change is at hand. On the employee side, the act of taking on power and responsibility is equally momentous" (p. xvii). Conger and Kanungo (1988) believed that, despite its widespread use, there was real confusion as to the precise meaning of worker empowerment. Seen primarily as a managerial technique, empowerment was often confused with the delegating of responsibility to subordinates.

This imprecision was particularly evident in the practitioner-directed literature. Combining and expanding human relations and human resources practices into a construct identified as High Involvement Management, Lawler (1986) and Lawler, Mohrman, and Ledford (1995), talked about pushing power into the lower reaches of the organization. In this view, leadership "gives people direction, energy, and a sense of competence–in other words 'empowerment.' It is the result of leaders effectively communicating a vision, building trust, and allowing others to use their competencies" (Lawler 1986, p. 212). Kerfoot and Knights (1995)

took issue with this formulation. In their examination of total quality management, they observed that equating more organizational responsibility for line employees with greater empowerment on the job often masked continued bureaucratic control. Self-imposed demands for continuous improvement led workers to discipline each other without ever gaining real decision-making power.

The issue of individual empowerment underlies all discussions on the increased need for workplace education and training. According to the Office of the American Workplace of the U.S. Department of Labor (1994) the acquisition of new skills and greater access to information are the cornerstones of high-performance work organizations.

> High-performance companies view their workers as valuable assets and make investments accordingly. They change in fundamental ways their approach to worker learning. They switch from training for specific jobs to emphasizing skills that equip workers with the ability to solve problems and to interact with customers, other workers, and other departments. Training is viewed as continuous, with a commitment to lifelong learning. (p. 2)

Other advocates of high-performance work systems echo this view. Bassett (1993), emphasized the need for workers to be as broadly trained as possible in relevant skills. Lynch (1994) observed:

> Leaner work organizations require workers to have a broader range of skills, and, given technological changes, many workers, even if they remain with the same employer, will not be working in the same job ten years from now. The requisite new skills are not easy to acquire informally, and they require a strong base of analytical, quantitative, and verbal skills that college graduates are more likely to have than are high school graduates. (p. 2)

Taylorism was specifically designed to strip any semblance of power from workers by diminishing the value of their knowledge and experience. Its widespread acceptance by employers, throughout all segments of the economy, discouraged both public and private institutions from training prospective employees in exactly those critical thinking, personal, and organizational skills that are supposedly so much in demand today. Academics and practitioners alike have been struggling for the past 20 years to develop viable models of learning that can overcome this roadblock. The next chapter examines various contemporary approaches to workplace learning. Do they represent a break with traditional education and training practices or are they just a variation on a familiar theme? Do their design, structure, and content support and encourage the skill clusters that are considered critical in today's offices, hospitals, factories, and financial institutions? Ultimately, what is their potential in terms of helping wage earners gain a true measure of control over their working lives?

Workplace Learning for the Coming Century

Training and Human Resource Development

Public and private discourse over the skills deficiency of both new and incumbent wage earners obscures a serious debate taking place within the ranks of American management. Although almost everyone agrees on the need for increased employee education, there is far less unanimity on the form, content, and appropriate delivery mechanisms for such training. Even the operative terms themselves–education, training, and learning–have different meanings to different people. Part of the debate is driven by scholars and educational professionals who are trying to develop academically sound approaches to preparing people for successful work experiences. At the same time, practitioners are scrambling to meet employer demands for new, cutting-edge approaches that will give them a decisive advantage over their competitors. Given the fact that tens of billions of dollars are spent each year educating hourly and salaried employees (Haskell 1998; Tobin 1998), attempts to develop effective means of providing work-based education and training are far from an esoteric exercise.

Any current evaluation of the state of workplace education must be viewed within the context of the evolution of human resource development (HRD). A relatively new field, HRD draws upon a wide variety of disciplines including economics, psychology, management theory, communications, the humanities, political science, and education (Rothwell and Sredl 1992, pp. 45-64). Nadler (1980) originally defined the term human resource development as–

- an organized *learning* experience
- within a given period of time
- with the objective of producing the *possibility of performance change*. (p. 66)

This was expanded a number of years later by McLagan (1989) to "the integrated use of training and development, Organizational Development, and career development to improve individual, group and organizational effectiveness" (p. 7). The redefinition of HRD marked a significant change in the field. Whereas Nadler's primary focus was on the needs of individuals to gain new skills or knowledge in order to improve their performance on the job, the later definition emphasized the increasing importance of HRD practices to organizational success. Nadler himself recognized this change by making it clear that human resource development was primarily a management function (Rothwell and Sredl 1992, pp. 1-3).

The imprecise nature of HRD as a field may be a result of the fact that it was, at heart, a pragmatic response to the economic changes that began to sweep over the United States in the 1970s. Approaches to personnel management and training that were developed in the boom years after World War II, proved

totally inadequate to meet the challenges facing U.S. employers. Although systems thinking and human resource management, for example, had both been around since the late 1950s, neither was able to supplant the Taylorist-inspired lethargy that affected most companies during the period (Argyris 1957; Tilles 1963). The continued strength of hierarchical structures within organizations and the entrenchment of training staffs who focused primarily on the needs of managers, supervisors, and salespeople significantly restrained any movement toward innovative approaches to workplace education.

Only when the old systems failed to halt the continued free fall of major sectors of the U.S. economy did employers seek out help. Combining elements of systems thinking and human relations strategies, an eclectic mix of academics and practitioners developed the concept of human resource development. Since it draws upon many fields of inquiry, approaches to the subject reflect the varied disciplines from which its proponents emerge. Although university-based HRD advocates have attempted to instill some intellectual rigor into the discipline, its major appeal lies in its direct applicability to day-to-day employment issues.

At the heart of human resource development is the concept of learning which itself has become a topic of discussion. The original parameters of the debate had to do with the difference between education and training. Lawrie (1990) identified training as a "change in skills" whereas learning was defined as "a change in knowledge" (p. 44). Rothwell and Sredl (1992) believed that "training is a short-term learning intervention intended to establish—or improve—a match between present job requirements and individual knowledge, skills, and attitudes" (p. 4). Education, in their view, "is an intermediate-term learning intervention intended to help individuals qualify for advancement and thus achieve their future career goals" (p. 5).

For Noe (1999) "training refers to a planned effort by a company to facilitate employees learning of job-related competencies. These competencies include knowledge, skills, or behaviors that are critical for successful job performance" (p. 5). A more explicit difference was drawn by Heisler and Benham (1992). For them, education connotes an academic approach geared toward thinking and conceptualization whereas training deals with "the job utility of knowledge" (p. 23). In their view, the cultural and philosophical gap between the academy and the real world accounts for these diverse conceptualizations. The education/training debate has been further complicated in recent years by the veritable explosion of interest in organizational learning

Organizational Learning/Learning Organizations

The training vs. education dispute is little more than an argument over semantics for those scholars and practitioners who advocate the concept of workplace learning. Drawing upon Knowles' (1980) theory of andragogy, Marsick (1987) identified education and training primarily as delivery systems. In her view "learning...involves reflection by individuals and working groups upon their own experience as part of the organizational whole. The emphasis is on enhancement

of variety of skills and perspectives in each individual" (p. 3). Formalized training, geared toward providing specific skills to solve immediate problems, will not produce much of long-term value to an organization; to succeed in the marketplace of the future it must create an environment that encourages every employee to reflect critically upon what they do and what it means for the entire firm.

Peter Senge's ***The Fifth Discipline*** (1990) applied structure to the general concept of work-based learning by helping to popularize the idea of the learning organization, which he broadly defined as "an organization that is continually expanding its capacity to create its future" (p. 14). Based largely on the work of Argyris and Schön (1978), Senge posited an evolutionary process comprised of four components:

1. Personal mastery
2. Mental models
3. The building of shared visions
4. Team learning

Cohesion was brought to these discrete elements by systems thinking, Senge's fifth discipline. "Systems thinking is a discipline of seeing wholes. It is a framework for seeing interrelationships rather than things, for seeing patterns of change rather than static 'snapshots'" (p. 375). Instead of functioning as managers, leaders must act as "designers, stewards and teachers," creating shared visions and facilitating an organizational commitment to the ongoing accumulation of individual knowledge and skills (p. 340).

The Fifth Discipline represents the touchstone for almost all current discussions on skills development in the workplace (Garvin 1993; Mai 1996; Nevis, DiBella, and Gould 1995; Watkins and Marsick 1993). Marquardt (1996) and Brinkerhoff and Gill (1994) share Senge's emphasis on the importance of systems thinking whereas Handy (1995) identifies curiosity, forgiveness, trust and togetherness as being fundamental character traits of learning organizations. Bentley (1990) believes that employers must create a working environment where people can challenge and experiment without strict time constraints. Hoffman and Withers (1995) make specific comparisons between the learning organization and traditional training (p. 472):

Traditional Training	Learning Organization
Teaching content	Learning processes
Classroom focused	Workplace focused
Teacher centered	Learner centered
"Belongs to" training department	"Belongs to" each associate
Activity centered	Outcome based
Training specialist	Learning consultants

This comparison underscores the dominant theme underlying all of the organizational learning literature: the primacy of the individual as both recipient and actor. Ravid (1987) sees each worker as being responsible for their own learning experience. "Self-directed learning...is interpreted as an approach to learning, training and upgrading based on the individual's ability to sense what is relevant and important, and use them; to be flexible in viewing things, and independent in thinking, curious, initiating and persistent" (p. 103). Individual responsibility for workplace learning is further extended in the discussion of the need for employees to manage their own careers. Each worker is expected to take the initiative in obtaining additional knowledge so that he or she can contribute to the ongoing development of the firm as well as to improve their own job prospects (Byrd 1995).

In order for self-directed learning and development to take place, organizations have to modify their structure and function so as to encourage employees to operate in a "learning mode" (Morris 1995, p. 328). Firms must design ways to encourage employees to test out assumptions that arise out of their daily work experiences, an important aspect of the ongoing process of learning (Marsick and Watkins 1987). Tobin's "knowledge-enabled organization" (1998) shifts workplace learning to the very heart of the corporation. "When a company learns to utilize and foster the growth of the knowledge and skills of all employees across all functions and levels, integrate learning activities into every employee's work, encourage and reinforce all modes of learning, and align all of this learning with the company's strategic business directions, it becomes a knowledge-enabled organization" (p. 39).

Individual learning contracts, jointly developed by the supervisor and the employee, align the person's existing competencies with the needs of the firm. The worker is then responsible for developing and implementing a program to upgrade his or her skills with the assistance of training or human resource personnel. In order to support the individual learning goals of its employees, the organization should set up a centralized "knowledge network" that makes critical internal and external information accessible to all employees.

Leonard-Barton (1992) identifies the Chaparral Steel company as a "learning laboratory," which she defines as "an organization dedicated to knowledge creation, collection and control" (p. 23). All employees, from company president to security guard, are expected to upgrade their skills constantly in order to add maximum value to the enterprise. According to Leonard-Barton, the ability to have "continuous learning depends upon the sense of ownership derived from the incentive systems, upon the pride of accomplishment derived from special educational systems, upon values embedded in policies and managerial practices as well as upon specific technical skills (p. 35). Almost every employee spends the first 3½ years at the firm in an internal apprenticeship program that combines formal schooling with on-the-job training. Classroom instruction is carried out by shop-floor supervisors rather by professional trainers. Clear career paths and monetary incentives reenforce the need for experimentation and continuous learning.

Leonard-Barton's Chaparral Steel case study inadvertently raises a crucial issue in any critical examination of organizational learning. As she makes clear, "respect for the individual does not mean equality of responsibility, lack of discipline or even consensual decision making. Chaparral managers believe that a supervisor should be a leader, trained to make good decisions–including hiring and firing" (p. 27). At the heart of this observation is the dichotomy between individual empowerment and organizational power.

Popularists like Senge attach an almost mystical quality to the ability of organizational learning to fundamentally transform people and the places where they work. "A learning organization is a place where, through learning, people are continually re-perceiving their world and their relationship to it, discovering how they create their reality and their future" (Rolls 1995, p. 103). Taking the positive impact of self-directed learning one step further, Ravid (1987) suggests that it could lead to a change in power relationships at work. "Putting the control in workers' hands means a shift not only in the training systems, but also in the hierarchical perceptions of the traditional structure of the organization" (p. 106).

Marsick (1987), in the same collection of essays, presents a more nuanced view of the transformative powers of organizational learning. She recognizes three distinct limitations:

1. Workplace learning will always be governed to some extent by an instrumental focus because the primary purpose for such organizations is productivity.
2. Not all individuals are ready to participate more fully in decision making and self-directed learning.
3. Organizations cannot always change conditions such as hierarchy and centralized decision making even when they wish to do so. (p. 25)

Chaparral Steel embodies the last of Marsick's three points. Even as the firm maximizes employee input by creating a total learning environment, it is not prepared to relinquish any measure of control over how the corporation operates on a daily basis. Employees may be empowered to alter the way they perform specific job tasks or to help redesign broader productive processes, but they have no power to determine the conditions under which they work. Management continues to run the company without any pretense of shared decision making.

This same disconnection exists in all almost efforts at workplace restructuring. The language of involvement and personal empowerment necessarily runs up against the realities of economic survival in a global, capitalist economy. Even organizations that are truly committed to moving beyond the confines of Taylorism often find themselves ensnared, to a lesser or greater extent, by the past. The next chapter examines this inherent contradiction, in the context of actual real-world experience, from three vantage points: (1) What is the actual extent of all forms of workplace reorganization in the United States today? (2) What is the current scope of private sector training, education, or organizational learning efforts? and (3) When some form of training does occur, is there any congruence between its stated purpose and its actual implementation?

Taken as a whole, the answers to these three questions will tell us quite a bit about how we, as a nation, are preparing working men and women to deal with the challenges posed by an uncertain future.

The Changing Workplace

The Scope of Workplace Reorganization

The entire national debate over the mismatch between the skills of workers and the needs of employers rests upon the belief that work has fundamentally changed over the past 2 decades and that it will continue to do so in the years ahead. Although experts and lay people alike agree that much has changed in the average workplace, there is far less agreement as to the actual scope of that transformation. Is work in today's offices, factories and hospitals fundamentally different from the way it was in the past or has it just been refurbished with a fresh coat of paint? In an effort to establish a coherent framework for analyzing changes at work, Osterman (1994) identified two key questions for researchers: "First, how many firms were engaged in reorganizing work? And second, what differentiates firms that undertake these efforts from those that do not?" (p. 173).

In answering the first question, Appelbaum and Batt (1994) spoke for most researchers when they concluded that "despite the widespread interest in work reorganization, our understanding of what has taken place still is poor" (p. 58). Lawler, Mohrman, and Ledford (1992), in contrast, felt comfortable claiming that at least 86 percent of 313 Fortune 1000 companies had some form of worker involvement process. From a random survey of unionized manufacturing companies, Cooke (1990) derived a figure of approximately 50 percent for the number of firms involved in using collaborative processes.

A comparative study of auto manufacturing plants found a significant increase in the use of a range of high-performance work practices between 1989 and 1993 (Pil and MacDuffie 1996). Another survey concluded that 42 percent of firms adopted at least one of a cluster of six innovative work practices (Gittleman, Horrigan, and Joyce 1998, p. 113). In this survey, the adoption rate for firms with more than 50 employees was 72 percent. Less than 1 percent of all the companies in the study were using all six practices. Doeringer, Evans-Klock, and Terkla (1998), in comparing Japanese and domestically owned startup companies, found that approximately 32 percent of the former adopted a specific set of innovative workplace practices; in comparison, the rate for U.S.-owned firms was only a little over 9 percent (p. 182).

Using a different sample, Osterman (1994) concluded that approximately 35 percent of private sector employers with more than 50 workers seem to be using some form of what he called "flexible work organization." He subsequently admitted, however, that even in these firms "the work practices did not seem to cluster together into a natural formation that one might characterize by any of the popular labels—'high performance work organization,' for example or 'transformed' firm" (p. 186).

Osterman's second question has been answered in a variety of ways. The leaders of the Massachusetts Institute of Technology's (MIT) extensive International Motor Vehicle Program popularized the term "lean production," depicting it as the natural successor to Henry Ford's mass production (Womack, Jones, and Roos 1990). Based on an extensive, worldwide study of auto manufacturing, they concluded that the production system developed by Toyota and other Japanese firms was far superior to that used by other companies. Kenny and Florida (1993) took issue with Womack, Jones, and Roos, positing an alternative model of workplace change. According to Kenny and Florida, lean production, as depicted by the MIT study, reflected a simplistic and static understanding of Japanese industrial practices and policies.

What was missing from Womack et al.'s account was human agency. Kenny and Florida's model, labeled "innovation-mediated production" proposed that it was the intellectual contribution of workers on all levels of Japanese industrial firms, that provided them with a competitive edge. A combination of work teams, job rotation, and especially job security helped Japanese companies develop a store of knowledge, which then filtered back to the shop floor through an ethos of continual improvement. This cycle of employee input helped turn these firms into "learning organizations" (p. 49).

Rather than following the path of these macro-studies, other researchers have attempted to ascertain the extent of workplace change within a more limited framework. In place of idealized models, they have examined the bewildering array of strategies that employers in specific industries or locales have adopted. Eaton (1994) initially surveyed 80 worksites in Wisconsin and surrounding states in order to determine the extent of innovative work structures and practices in unionized facilities. In a follow-up study, Eaton (1995) found the existence of work teams or other forms of worker participation did not necessarily mean that employees had significant input into the adoption of new technology or production techniques. This supported Osterman's contention that work reorganization lacked the coherence and consistency put forth by advocates of lean production or innovation-mediated production.

Similarly, a matched survey of 261 Pennsylvania employers and unions by Juravich, Harris, and Brooks (1993) also found a wide diversity of approaches to the general notion of employee involvement. Despite the claims of lean production advocates, most workplace innovation programs continued to use a quality circle model, long considered the most primitive form of labor-management cooperation. Few firms had developed innovative pay systems or intricate participative structures that altered the basic way facilities operated. West Virginia management representatives and union officials voiced similar views in a survey by Miller, Humphreys, and Zeller (1997). Their findings indicated that only a small minority of workplaces had adopted such advanced innovative features as self-directed work teams or gainsharing. Most West Virginia firms followed the Pennsylvania example, depending mainly on joint-labor management committees or problem-solving groups.

Eaton's research pinpoints a critical issue underlying all of these studies. She found a wide divergence between the way work is organized and executed and the role that individual workers play in that process. From commercial bakeries to banks, steel mills, and car rental agencies, computer technology has fundamentally altered the way jobs are defined. Total quality management can be found in college English departments, textile plants, local phone companies, and county welfare offices. Just-in-time production and statistical process control are the norm in most manufacturing facilities.

Although the nature of work has changed dramatically, the decision-making process in most organizations has not. Only rarely do nonmanagerial employees have a real voice in how companies operate on the most fundamental levels. Worker involvement, employee participation, teamwork, or the notion of empowerment cannot be equated with the ability of workers to make basic decisions about how they earn a living. Employers, by and large, want input into how workers can be more productive and cost effective; they are far less interested in having their employees make decisions about how firms organize production or spend their money. The difference between perceived knowledge and reality is even more apparent in an examination of current workplace education efforts.

The Learning Gap

There is general agreement that new forms of work organization require more highly skilled employees. There is far less unanimity over the quality, content, direction and purpose of much of the workplace learning that is currently being carried out by employers. There is even some question about how much training private sector firms are actually providing. Veum (1995) found that employers represented the single greatest source of work-related education. He estimated that 18 percent of the work force benefited from employer-provided training (p. 815). His figures came in at the high end of the 5-20 percent range put forth by Brown (1989). Lynch (1994) projected a figure of nearly 17 percent of the work force. Carnevale and Goldstein's (1990) estimates also fell within the parameters outlined by Brown.

These figures belie the fact that employers continue to allocate a considerable amount of time and resources to work-related training. Frazis, Herz, and Horrigan (1995) found that 71 percent of the firms that responded to a major survey provided some sort of formal workplace education. Formal training was defined as "training that is planned in advance and that has a defined curriculum" (p. 4). Across the board, the two most common forms were workplace-related training (firm-specific policies and practices that affect employee relations or the work environment) and job-skills training (upgrades employee skills, extends their skills, or qualifies workers for a job). Other common forms were orientation training and safety and health training. As might be expected, firm size was the major determinant in the provision of training. Only 7 percent of the respondents had more than 50 employees yet they provided most of the education in every category, especially in the area of basic skills training.

In a summary of existing research, Bassi, Gallagher, and Schroer (1996) came to similar conclusions. Although firms have dramatically increased the scope of work-based learning, a majority of workers still receive little or no formal training. This is true for informal, on-the-job training as well. Occupational differentiation appears to be the single biggest factor in accounting for the disparity between the provision of training and its receipt. Although 31 percent of technical professionals are trained by their employers, the figure drops to 9 percent for service workers and to 5 percent for laborers. Overall, 56 percent of managers and professionals receive some form of work-based education, whereas only 17 percent of production workers have access to work-related learning.

Osterman (1995) also found that most training was directed at technical and professional employees rather than blue collar workers. Occupational disparities in access to training are mirrored by issues of age, race and educational background. A major study of U.S. job training efforts conducted by the U.S. Congress's Office of Technology Assessment (1990) reported: "Workers under age 25 and workers over age 44, as well as most nonsupervisory workers and minorities receive a disproportionately small share of company-provided training" (pp. 227). Black and Latino workers, for example, were less likely than their white counterparts to receive some form of upgrade training once they left the formal education system. Lynch (1994) determined that only 4 percent of young workers who were not college graduates received formal workplace education. Most of them learned job-related skills through informal contacts with other employees. Delaney, Lewin, and Ichniowski (1989) came to similar conclusions.

On the one hand, proponents of the reorganized workplace stress the need for highly trained, multiskilled employees who are adept at general problem solving. At the same time, it appears that employers are very reluctant to commit a significant percentage of their own resources to creating the very work force they all claim they need. Cappelli (1999) reported that, although there were some increases in the actual training provided for workers between the ages of 35-54 in recent years, overall employers spend proportionately less money and time on workplace education today than in the past.

This is reflected, for example, in international comparisons of training for both new and incumbent automobile workers. Japanese employers provided approximately 380 hours of instruction, European producers committed 173 hours to training, and Japanese-owned manufacturers in the United States dedicated 370 hours to the education of recently hired employees. In contrast, the Big Three auto producers allocated an average of 46 hours of training for new workers (McDuffie and Kochan 1995; Womack, Jones, and Roos 1990).

Appelbaum and Batt (1994) found that, with the exception of a limited number of benchmark companies such as Xerox, Corning, and Saturn, most American employers devoted even fewer resources to training than did domestic auto producers. Saturn's 92 hours of employee training a year could not compare with the resources devoted to workplace education by major Japanese firms. The firm's commitment to training, however, was nearly five times greater than that of the

average American firm. Bassi, Gallagher, and Schroer (1996) determined that, overall, employers with 50 or more workers dedicated only 20 hours per year per employee to formal training.

Even corporate leaders recognize that a large gap exists between the professed need for extensive workplace learning and the organizational will to make it happen. Although 97 percent of the companies polled in a 1997 survey believed that training will be very important in the future, only 33 percent indicated that it was an integral part of the way their firms operated (Hackett 1997). In line with other studies, Hackett found that leadership development for management was considered the most important category of training, followed by the dissemination of technical, supervisory, and marketing skills. Career development, communications, and basic skills for nonmanagerial employees were not considered a priority by most companies.

This directly contradicts the notion that ongoing, personal improvement through continuous learning provides the maximum return, both for the individual and the organization.

The resources and attention being devoted to employee development are not matching the rhetoric of a "new deal." People alone are not the most important asset, nor is stating that the company is a "learning organization" a competitive advantage. The rate at which people learn and apply their learning to serve the customer is the competitive advantage. "The culture of the company and the leadership that builds it are keys to translating the training and development of the work force to the bottom line" (Hackett 1997, p. 6).

From this perspective, traditional forms of workplace education are totally inadequate to address the needs of modern business organizations. Although all the data indicate that a majority of firms invest little in the development of their employees to begin with, many academics, practitioners, and some corporate leaders are sharply criticizing traditional training practices in favor of some form of organizational learning.

Training on Trial

Critiques of workplace training are arising from all quarters. For some it is a pedagogical issue; for others it is a question of the efficient use of organizational resources. Brinkerhoff and Gill (1994) outlined the composition and scope of the types of traditional training programs that came into existence in the post-World War II era. Specific content sessions were designed and delivered by professionals from training departments, based upon perceived organizational needs. Little attention was paid to the mitigating influences of the daily work experience or the strategic goals of the firm.

According to Tobin (1998), this relative organizational isolation produced ongoing tension within management's ranks between human resource personnel and production supervisors over the allocation of company time and resources. The

latter tried to limit the amount of time hourly workers spent away from their designated tasks, whereas the former pushed a wide variety of training packages that may or may not have had any real value to the company. Tobin contended that corporate training tended to fulfill the need of human resource professionals to justify their existence rather than to produce any measurable gains for the firm or its workers.

Pedagogical approaches, rooted in traditional educational theory, also limited the effectiveness of workplace training. In the view of Newstrom and Lengnick-Hall (1991), most training professionals approached workers in the same way that elementary and secondary school educators viewed their pupils–as empty vessels and passive participants in a process totally directed and controlled by teachers. This relationship was reenforced by a learning methodology that used formal classroom techniques focused on the needs of the instructor rather than on those of the trainees. Even where more innovative approaches such as games, simulations, or behavior modeling were used (Tannenbaum and Yukl 1992), there were few, if any opportunities, for employees to participate actively in the design or implementation of their worksite learning experience.

Although informal learning represents an important part of the workplace skill acquisition process, tightly organized, well-defined training programs tend to overlook its existence. According to Chao (1997):

> Unstructured training and development include many forms of on-the-job training, as well as a wealth of information that is absorbed by observation and interaction with others that may not be sanctioned by the organization. Together, these unstructured training and development experiences represent a powerful process by which an individual learns about the job, work unit, and organization. (p. 130)

Because they tend to exist below the organizational radar screen, these unplanned learning experiences fall outside of the purview of most corporate training departments. They are devalued, in part, because they are driven by individual rather than corporate need. In contrast, Marsick and Watkins (1990) viewed informal learning and incidental learning, an offshoot of the former, as critical components of any attempt to develop and implement organizational learning. They believed that each person had to be encouraged to examine, evaluate, and act upon all information accumulated from the daily work experience whether derived through formal, structured learning processes or through informal interaction with other employees. In their view, "informal learning can be deliberately encouraged by the organization or it can take place despite an environment not highly conducive to learning" (p. 12). Either way, the process continues; a smart company will recognize its value and make it an integral part of the firm's operational agenda.

The relative isolation of most traditional training departments often leads them into developing "products" that do not resonate with the real life experiences of the organization or its people. The pretraining and posttraining environments are

major factors in determining the ultimate value of workplace education, yet their import is rarely evident in the way training is designed (Baldwin and Majuka 1997). Among the critical issues often ignored are the mixed signals that companies send as to the real value of training, the financial resources actually devoted to training, the learning ability of the work force, and the willingness of the organization to reenforce the initial learning experience periodically (Salas, Cannon-Bowers, Rhodenizer, and Bowers 1999). By failing to account for this total organizational environment, training personnel can limit the successful transfer of obtained knowledge to the actual worksite.

Baldwin and Ford (1988) find this was the norm rather than the exception. Approximately 10 percent of the funds spent on training actual resulted in the direct transfer of learning to the performance of specific tasks; they clearly believed that the rest was wasted. Haskell (1998) believes that more than 50 percent of all formal training does not transfer to actual job performance (p. x). In part, this is a result of the failure of most firms to conduct serious evaluations of their training efforts. The U.S. Congress' (1990) Office of Technology Assessment found that "only 10 percent (of a group of companies surveyed) assessed the impacts of training on job performance, and only 25 percent looked at business results" (p. 134).

Meshing various critiques of ASTD-type formal training with the organizational learning literature, Haskell (1998) concludes that training for specific skills is extremely limiting. What is needed are more of Senge's "mental models," in terms of the underlying structure of work. "A worker who has learned to transfer is an adaptable worker. An adaptable worker is one who can generalize and form associations so that the skills, attitudes, knowledge and personal characteristics they have learned in one context can be used easily in a different context" (p. 31). The ability to transfer diverse forms of knowledge effectively to new and potentially unexpected situations constitutes the foundation for the learning organization, an entity that he believes still exists more in the minds of academics or practitioners than in actuality.

Training in Real Time: Case Studies

The very limited case study literature that addresses issues of workplace learning supports the critique of most current training practices put forth by Haskell and the others. Graham (1995) and Jacobs (1995) looked at the content of training at two Japanese-owned firms operating in the United States. They both started from an assumption, articulated by Fossum (1990), that there were fundamental differences in the way American and Japanese employers regarded workplace education:

> Among large companies, training in Japan appears to be different from that employed in the United States. Part of this may be linked to differences in job design and production technology. For example, just-in-time inventory systems, statistical process control quality programs, quality circles, and the like require different types of skills than tradi-

> tional U.S. production situations where jobs have been structured to require relatively little training. In Japan, production workers receive more training through job rotation, classroom skill development sessions, on-the-job tutoring, and attention to corporate culture. (p. 142)

Graham and Jacobs reasonably assumed that the value attached to training in Japan would be extended to their American facilities. As an actual employee of a recently opened Subaru-Isuzu Automotive (SIA) plant in Lafayette, Indiana, Graham participated in the start-up phase of training at the plant. Management's stated objective at SIA was to create a continuum that stretched from preemployment screening, through training, to actual shop floor production. A set of values and norms was articulated at the very first contact between the company and potential employees. SIA "associates" were expected to commit themselves to hard work, quality output, continual improvement, and teamwork. In return, the company guaranteed them decent wages and benefits and promised to treat them with care, dignity, and respect.

Upon successful completion of an extensive initial screening process, SIA candidates underwent a series of preemployment assessment activities. These combined the filling out of questionnaires with group and individual problem-solving exercises and a number of physically demanding tasks. Trainers rarely, if ever, informed potential employees of expectations or desired outcomes. Most successful applicants, however, figured out to one extent or another what the company was looking for.

Graham observed that "the screening can be seen as part of a longer term strategy aimed at establishing the parameters of behavior on the shop floor. This could arguably be accomplished through the socialization that occurs while the applicant is involved in screening. After successfully completing the hiring process, the applicant should have a clear understanding of the kind of behavior that will be expected on the shop floor. SIA is banking on the likelihood that if an applicant is willing to cooperate to get a job, he or she will continue to cooperate to keep it" (p. 33-34).

New employee training helped to make explicit what was implicit during the screening process. "The purpose of Orientation and Training was expressed by the instructors in different ways but all had a common theme–to create a cooperative work force willing to conform to company demands" (p. 58). This was reflected in the fact that over half of the total of 127.5 hours allocated to the training of new associates focused on behavioral issues rather than the acquisition of requisite technical skills. Each new employee underwent 3 weeks of training before they reached the shop floor. Orientation took 1 week. Among the topics covered during the first week were the history of SIA, sexual harassment, safety and hazards communication, cross-cultural training, kaizen, handling conflict, work rules, and production organization and method.

The remaining 2 weeks of training concentrated on the overall operation of the plant and general shop floor skills. The latter included statistical process control,

blueprint reading, hazardous wastes, operation instruction sheet training, basic car engineering, and basic hand tools (pp. 37-39). The first 2 days of this training were devoted to "learning enhancement." Designed for workers in the auto industry, it was supposed to upgrade their educational skills so that they could get the most out of SIA's training program.

Once Graham and her cohort of other newly hired associates reached the factory floor, the gap between rhetoric and reality became readily apparent on many levels. They quickly found that most of the training they had received had little relevance to their daily work lives. Despite claims made during orientation that a safe and healthy workplace was a top concern for SIA, management repeatedly refused to alter the nature of work even as cases of carpal tunnel syndrome and other physical disorders multiplied. Employee involvement in shop floor decision making decreased dramatically as the pace of production continued to increase. Although all workers were supposed to be treated as equals, patterns of gender and racial discrimination quickly emerged in relation to job assignments and promotions.

According to Graham, the egalitarian environment touted in training quickly gave way to the realities of corporate survival in a very competitive industry:

> As the company set up rules and regulations to conform with the demands of production in a capitalist environment, it became apparent that SIA was like any other company operating within the same constraints. When faced with the pressures of production quotas, management resorted to intimidation, threats, and, when necessary, through its Human Resources department, created policies on the spot to get what it wanted. It became clear to workers that the company was always willing to repress their concerns to expedite production goals. (p. 128)

There were many similarities between the training workers received at SIA and at Michigan Automotive Compressor, Inc. (MACI), a joint venture of two Japanese firms, Toyota Automatic Loom Works and Nippondenso. The plant produced components for automobile air conditioning units. As at SIA, employee training was part of the seamless whole in terms of the overall operation of the facility. MACI depended on extensive preemployment screening to recruit a work force that it could shape in its own image. Those few who successfully completed the recruitment phase went into the plant as employees of a temporary agency. After 3months they became full-time "associates."

At that point, production workers were sent to a nearby community college for 8 weeks of technical training. The curriculum, which was designed by the company, concentrated on basic mechanical skills and the use of electronic controls. All training at MACI was based on Nippondenso's "Seven Steps" process (Jacobs 1995, p. 319):

1. Describe the job in general terms
2. Demonstrate what to do and how to do it
3. Find out what the associate already knows about the job
4. Discuss the job with the associate
5. Allow the associate to practice while you watch
6. Allow the associate to work alone
7. Check back to determine the associate's progress

Given the fact that most associates did assembly or subassembly work, the company used the Seven Steps to guarantee adherence to specific methods and procedures. Even the training of skilled trades workers and engineers followed a similar trajectory. Although a lot more time was spent educating them, they were basically taught that there were specific policies and methods that had to be followed. People were actively discouraged from deviating from stated norms; there was no reward for creative problem solving.

MACI also devoted some time to behavioral training. New associates learned about the MACI system, kaizen, and teamwork. As at SIA, company officials claimed that "our associates are our most important asset" (p. 320). Despite what was said in training sessions or subsequent team meetings, it was clear that MACI was not interested in having its employees be involved in the basic process of decision making. "The claim that training at MACI represents the 'hub' of an empowerment system appears to be unfounded. Rather, the training conducted at MACI fits the needs of a batch supplier and assembler of mature products for the auto industry. Most of the technical training is directed at the skilled trades and engineers, while hourly people are 'taught' to perform their specific jobs" (pp. 322-323).

Direct Japanese management of the facility further limited the ability of even highly skilled technicians to have meaningful input into plant operations. The installation of new equipment or major changes in production techniques were carried out by employees from Japan. In order to maintain their control of the facility, these procedures were often carried out after working hours.

These case studies demonstrate the allure of cultural adaptation. Company rhetoric aside, both firms approached training in a fashion similar to many, if not most, of their American counterparts. Although they devoted more hours to training than domestically owned companies, production still took priority over all else; anything that interfered with continued high levels of output was considered of secondary importance. In this context, employee learning was evaluated almost solely on the basis of its cost effectiveness rather than on its intrinsic value to the organization. Like other U.S. firms, SIA and MACI did not view training as a necessary investment in the future.

An even dimmer picture is painted by the study of an American producer of high-tech medical equipment (Devinatz 1999). Working in conditions reminiscent of an apparel sweatshop, a polyglot group of unskilled workers produced portable heart defibrillators. Formal training was nearly nonexistent; most job skills were

learned informally through contacts with other employees. As Devinatz makes clear, his experience was not atypical.

Even within the high technology sector, which is perceived to be the cutting edge of U.S. economic expansion, there exists a wide range of employment practices and working conditions. For every major corporation struggling to become a true learning organization, there is a network of subcontractors and low-cost producers who invest little or nothing in the education of their employees. Since most surveys of training practices (Hackett 1997; Lawler, Mohrman, and Ledford 1995) tend to draw on data from larger companies, it becomes easy to draw inaccurate inferences on the nature and extent of workplace education, in all its various guises.

Training and Organizational Ownership

Case study literature provides an alternative view. By examining training within the context of an overall work environment, researchers such as Graham, Jacobs, and Devinatz do not gloss over issues of power and control, subjects that are conspicuously absent from most discussions of workplace learning. Although the ambient atmosphere of most worksites has changed significantly in the past 20-30 years, the structure of authority has not. Working men and women may now have more input into how they carry out their specific jobs but few, if any, have gained any measure of control over organizational decision making. Even as responsibility has been pushed further and further down the corporate ladder, employees still have no real ability to have a direct influence on the outcome of the basic decision-making process. Emerging trends in work-based education, training, and learning underscore this situation.

In direct contrast to the concept of learning as a core competency of the modern corporation, is the notion of education and training as a commodity. Basing his analysis on human capital theory, Cappelli (1999) argues that employers are constantly weighing their investments in skill development against the long-term return from such expenditures. Given the assumption that most workers will have multiple careers, moving from one employer to another, there is decreasing economic incentive for companies to provide extensive training. As a result, individuals will have to directly bear an increasing amount of the cost of job-related education.

According to Cappelli, "Silicon Valley solves the problem of skill development, therefore, by outsourcing formal training to postsecondary institutions and by relying on larger, more traditionally oriented firms to provide initial work experience and training for at least some of the entry-level workers" (p. 177). Some firms that continue to provide significant amounts of training are turning to legally binding contracts that force employees to stay for a specific period of time, once they've completed training. Designed to prevent the "poaching" of skilled employees, these contracts often call for the person to reimburse their employer for the costs of training if they leave before the designated time.

Another strategy for shifting the cost of training is to turn it into a product that can be marketed both internally and externally. Some employers have taken steps to establish proprietary control over it. In her examination of corporate universities, Meister (1998) points out workplace learning is evolving into a self-funded business in many major corporations:

> Leading corporate universities are charged with operating themselves as business units. Increasingly, they focus on understanding and serving the needs of their customers (whether employees, suppliers or external customers). They market themselves, their scope and their role *within* the organization as well as *outside* the organization. They create business-driven measurements tied to the company's strategic issues, and they are moving toward a self-funded pay for services model. (pp. 26-27)

Rhetoric aside, the cash nexus remains the touchstone of any evaluation of current work-based education and training efforts. Just as the broader concepts of employee involvement or worker empowerment have proven elusive in reality, so has the idea of organizational learning. All of them have come up against the facts of life in a world increasingly dominated by the values of global capitalism. Driven by demands for increasing profits and consistent returns on shareholder value, the needs of employees generally get short shrift.

Learning becomes central to the corporation to the extent that it fulfills the needs of the organization. Employers want workers with the requisite skills as long as the costs are minimal or are incurred by someone else. The issue thus arises as to how the majority of employees are to gain the required knowledge and training that will allow them to function effectively in the 21st-century economy. The answer may lie in a worker-centered model of learning that is examined in the next section.

Worker-Centered Learning

What Role for Workers?

The ability of workers to have a meaningful voice in the scope and structure of workplace learning cannot be separated from issues of power and control. Both of these are rooted in the need of employers to maximize profits and minimize costs. Bluestone and Bluestone (1992) make the point that—

> It is precisely this unvarnished profit motive that has historically motivated managers to develop strategies to control as much of their economic environment as possible. Executives aspire to a world where they can have control over the prices they pay for raw materials, control over the prices they can charge for their products, and control over the stream of inputs into the production system-free of interference from labor and government. (p. 116)

In this context, the concerns of employers often conflict with the needs of their employees. As individuals, wage earners have little ability to affect employer policies and decisions. Organization into a union provides employees with an opportunity to modify the more onerous aspects of managerial authority. This often leads to problems because "out of enlightened self-interest, labor seeks control of much the same work over which management already lays claim" (ibid., p. 117)

Work-based education and training have no special immunity to the inherent tensions between labor and management, according to Parker and Jackson (1994):

> Much current training is designed to further management's agenda and does not necessarily produce better-skilled workers. A union agenda for training recognizes the separate interests. It includes training connected to work and to workers' experience, training available by seniority, training that captures new work for the bargaining unit (such as new technology), broad training for marketable skills rather than company-specific training, basic skills upgrading, and career ladders into the higher-skilled jobs. (p. 35)

In their view, individual growth and development on the job can only become possible through concerted, social intervention.

In order for organized labor to participate fully in the development and implementation of workplace learning, it must have a coherent model from which to work. Worker-centered learning encompasses many of the elements identified by Parker and Jackson. Unfortunately, the respective size of the literature about this model is directly proportional to the relative power exercised by management

and labor in the workplace itself. The sheer scope and diversity of employer-oriented material on education and training is inversely matched by available writing and research on worker-centered learning. Outside of the fields of adult education and labor education/labor studies, little interest has been evinced in developing models of education and training based on the self-determined priorities of employees and/or their organizations.

As indicated previously, employee "ownership" over individual learning trajectories, established within predetermined institutional limits, cannot be equated with worker-centered learning. The latter emphasizes the importance of balancing the long-term educational and vocational concerns of wage earners with the economic needs of employers. True worker-centered learning can only exist where employees have real and meaningful input into an organization's decision-making process. In order for that to occur, employers must generally be forced to share some measure of their power. That can happen only through the existence of independent worker organization (Herzenberg, Alic, and Wial 1998).

The concept of worker-centered learning has evolved most fully in connection with the issues of literacy and English as a second language (Fingeret 1989; Johnston 1994; Martin 1994; Soifer, Young, and Irwin 1989). As a result, it must wrestle with many of the same issues that affect popular attitudes toward the acquisition of basic reading and writing skills. Hull (1993) believes that inherent social biases color all efforts to deal honestly with workplace literacy. "When applied to workers, the stigma of illiteracy is doubly punitive, for it attaches further negative connotations to people whose abilities have already been devalued by virtue of their employment. There is a long-standing tendency in our society and throughout history to view skeptically the abilities of people who work at physical labor" (p. 31).

This bias was readily apparent in a workplace literacy program implemented at King Memorial Hospital in Bayside, Florida (Gowen 1992). The hospital viewed literacy training as a mechanism to reshape employee behavior. "Management holds a whole set of beliefs about literacy's power to transform individuals into workers who are silent, obedient and easily controlled–more fully acculturated into the work environment management wishes to maintain" (p. 31). The workers who participated in the program had significantly different goals, centered around individual growth and job mobility. These issues were rarely addressed, however, because King employees played no role in the shaping or delivery of the literacy curriculum.

Jurmo (1989) identified three key areas where increased participation in the decision-making process improved outcomes of adult literacy programs. Direct learner involvement enhanced efficiency of skill acquisition, fostered greater personal development, and engaged students in efforts to address the root causes of illiteracy. Building upon Jurmo's foundation, Folinsbee (1995) defined the parameters of employee involvement in literacy training:

> Collaborative initiatives involve workers in program planning and decision making at every stage of development and work hard to marry individual and organizational needs. They respect and value the knowledge and experience that people individually and collectively bring, and are designed to assist people in developing new skills and self-confidence. These initiatives recognize that the workplace culture, communication systems, problems, and issues must be taken into consideration in order to ensure that expectations of education programs are realistic. (pp. 63-64)

Sarmiento and Kay (1990) felt it was important to extend the concept of worker-centered learning beyond the boundaries of literacy training. They viewed it as the basis for union involvement in all aspects of work-related education. For them, worker-centered learning was "a democratic, inclusive and open process. Ideally, program content is as broad as possible, not limited to the most basic literacy skills....Individual needs and differences are respected, and each learner takes responsibility for setting his or her learning goals." They go on to identify the desired outcomes of such a process: "A worker-centered approach does more than help workers acquire new skills and knowledge, though. It helps them gain confidence in their individual and collective abilities and to assume greater control over their lives" (p. 25).

In examining a retraining program involving skilled workers from the Rouge Steel plant, Saganski (1995) described an operating model of worker-centered learning and the importance of having all stakeholders actively involved in the development of the process. "This reliance on a critical dialogue between the trades, and between workers and faculty, differs from the usual approach in which educational specialists define what skills are needed and then deliver the training 'package' to the workplace. In contrast, a worker-centered approach originates from the perspective of the workers themselves, and draws educational specialists into their dialogue" (p. 329).

The similarity between these approaches and those put forth by such proponents of organizational learning as Senge, Marsick, Watkins, Schön, and Argyris is no accident. Organizational learning and worker-centered learning both have their roots deep in the field of adult education. In a sense they represent two branches of an evolutionary tree. The former, heavily influenced by human resource management and human resource development thinking, focuses on the individual within a broader organizational context. The latter, melding adult education with workers' education/labor education, stresses individual development and growth that may or may not produce some measurable return to the firm.

The ties between workers' education, adult education, and worker-centered learning are strong and direct. The economic and social forces that contributed to the growth of corporate schools in the early 1900s, also gave rise to the field of workers' education. A mixed bag of social reformers, radicals, educators, philanthropists, and labor activists believed that education, broadly defined, was a key to bringing the largely immigrant, industrial work force into the mainstream of

American life. Given its diverse origins, it was not surprising that workers' education encompassed a number of different aims and purposes, including "raising workers' educational levels, stimulating their cultural interests, aiding their citizenship efforts, increasing their understanding of unionism, training them for union activism, helping them understand the society they wanted to change, and radicalizing the labor force" (Kornbluh 1987, p. 10).

The establishment of the Workers Education Bureau in 1921 and the founding of the first labor extension program at the University of California at Berkeley that same year, marked a major turning point in the effort to bring order to a fragmented and chaotic discipline. It became increasingly focused on strengthening the existing labor movement through the training of local leaders and by teaching workers about the economic and social environment in which unions operated. At the same time, union and community-based workers' education programs continued to provide English language training and other classes designed to assimilate immigrants into American society.

Workers' Education/Adult Education—Uneasy Ties

The diversity apparent in workers' education was more than matched by the lack of coherence existing in the broadly defined field of adult education. Under the auspices of the Carnegie Corporation, an effort was undertaken in the early 1920s to rationalize the field (Knowles 1962; Lageman 1987; Stubblefield 1988). The actions of the corporation led to the founding of the American Association for Adult Education (AAAE) in 1926. According to Stubblefield and Keane (1994), AAAE established the general boundaries of adult education. "Its leaders held that adult education in a democracy must create informed citizens, promote tolerance and understanding of differences, and maintain social stability. This concept of education's role and of the existing social structure precluded any type of support for a type of adult education that would address conditions related to class or ethnicity" (p. 194).

Quoting Morse Cartwright, the first executive-director of the AAAE, Stubblefield (1988) made clear the desire of the association to distance itself from other, more controversial purveyors of adult education: "Adult education as an idea could not be identified with immigrant education, workers' education, university extension, or with any aspect that 'did not make directly for a safe, sane and careful up building of the central idea of adult education as a continuing cultural process pursued without ulterior purpose'" (p. 28).

Concerned almost exclusively with the idea of extending liberal education to large numbers of citizens, adult education as a discrete field of practice isolated itself from other, closely related disciplines. Although they often used similar approaches to enhance the learning experiences of working adults, a sharp line of demarcation developed between workers' education/labor education and proponents of adult education. Similarly, the successor organization to AAAE, the Adult Education Association, rejected an overture for merger from the ASTD in 1958. Although pedagogically all three subspecialties share many common as-

sumptions and approaches about education, each has veered off in very specific, and sometimes conflicting, directions, based largely on the individual constituencies they serve.

The institutionalization of the labor movement in the aftermath of the Depression and World War II had a profound impact on workers' education (Dwyer 1977; Kornbluh 1987; Peters and McCarrick 1975). Retreating from a concern over the general condition of wage earners in American society, it became increasingly focused on the needs of unions as organizations, according to Hewes (1956):

> The major emphasis in today's programs is on training for specialized union services. Courses in steward training, union administration, public speaking, parliamentary procedure, and labor law are in great demand. The business of negotiating contracts requires knowledge of job analysis, time study, and a variety of technical subjects required by today's industrial organization. These are not adapted for the rank and file, whose needs of a different kind are often neglected. (p. 215)

A reflection of this change was the growing use of the term "labor education" rather than workers' education. The name change reflected the desire of both union leaders and university-based education programs to purge the field of any taint of its more radical roots and to make it a respectable discipline that could withstand the scrutiny of Cold War anticommunism. Despite this shift to the ideological right, one aspect of workers' education/labor education remained the same; it rejected any identification with vocational education.

According to Hewes, "By general agreement workers' education has always been distinguished from training in trade skills to attain higher wages." Acknowledging its links with adult education, she pointed out that the workers' education held out "no promises of gain to the individual worker-student" (p. 214).

What it did offer workers was the chance to become engaged with the cultural and political institutions of a democratic society that could produce better conditions for all working men and women in the long run. Starr (1951) felt that it was important for organized labor to establish cooperative relationships with existing organizations that provided vocational education and technical training but that unions should not try to provide such services by themselves.

The types of vocational training relationships envisioned by Starr did flourish in the construction trades and in a variety of industries where partnerships between unions, employers and, in some cases, government, helped to establish third-party training entities. Beyond such efforts, however, unions and labor education programs generally shied away from active involvement in providing skills training for workers. This was largely an outgrowth of the structure of existing collective bargaining relationships. The issues of vocational preparation or skills upgrading remained firmly in the sphere of management's rights. In exchange for annual improvements in wages, benefits, and working conditions, organized labor gener-

ally removed itself from playing any significant role in the daily operation of the workplace, including the organization of work processes and the development of the work force (Marshall and Tucker 1992).

The dramatic, rapid changes that occurred throughout the U.S. economy in the 1970s and 1980s forced the labor movement to rethink many basic assumptions. An increasing inability to secure decent contracts widened the existing gap that had developed between the leadership of unions and their members. Employer efforts to institute teamwork, statistical process control, total quality management, and other innovations put additional pressure on unions to question long-held assumptions and policies. As union density continued to decline, organized labor and some labor education practitioners began to think more broadly about the role of the labor movement in relation to the needs of individual union members.

The Human Resources Development Institute, established by the AFL-CIO in 1968, played a key role in defining the parameters of labor's involvement in the realm of work-related training and education. Their efforts and those of labor leaders on the state and local level took on an added urgency as plant closings and workplace change efforts accelerated in the 1970s (McMillan 1991).

Labor's involvement in retraining, basic literacy training or skills upgrading is shaped both by strategic concerns and educational philosophy. This was spelled out in an AFL-CIO report on union involvement in training (Roberts and Wozniak 1994). According to the report, "well-planned innovative and carefully designed joint training, education and employee development strategies can improve labor-management relations and workplace morale, raise productivity, and strengthen employment security and mobility for workers by equipping them with a wide range of transferable skills" (p. 1).

In an era of diminished power, unions can ill afford to cede further terrain to management. In exchange for labor's involvement in restructuring work, many employers, albeit reluctantly, have agreed to joint training programs that give unions significant control over their scope, structure and content (Appelbaum and Batt 1994; Cohen-Rosenthal and Burton 1987).

These types of programs differ markedly from traditional company training, according to Ferman and Hoyman (1991). In their view, employers "are concerned with the internal labor market and with making the company more competitive by increasing the human capital stock of its workers. The goals are to provide for mobility in the internal market by developing or upgrading workers' skills so as to fill existing needs of the plant or company" (pp. 186-187). Ferman and Hoyman believe that joint programs reflect a very different agenda, shaped in large part by the input of unions. "In contrast, joint training programs are participant-driven. The emphasis is career development and lifetime employment. The program is structured on the expressed needs of the worker, not the job needs of the plant" (p. 187), a view echoed by Savoie and Cutcher-Gershenfeld (1991).

In attempting to maintain its organizational position in the workplace, the labor movement has interjected an educational philosophy into the formulation of work-based training and education that mirrors its ambivalent relation to adult education. Advocates of worker-centered learning share the belief of adult educators that wage earners, both as individuals and members of institutions, must have input into, and control over, the learning process. Drawing heavily on the work of Freire (1985), they are increasingly adopting the position that individual empowerment through learning is not enough; workers should use their ownership of knowledge to extend their social power as well (Heaney and Horton 1990; Jurmo 1989; Law and Sissons 1985).

Worker-centered learning, in its purest state, becomes a mechanism to accomplish two related goals. It prepares individual workers to function in a complex economic environment through the attainment of varied technical and personal skills. At the same time, it should move them toward an active role in rebuilding and strengthening the movement that helped to create opportunities for learning that meets their specific needs.

This formulation presents a major challenge to labor education. In much the same way that adult educators originally rejected organic ties to the professional training community, many labor educators, especially those based at institutions of higher learning, retain the belief that there is a distinct separation between education and training. Although this bifurcation is strongest in relation to joint labor-management processes, it has carried over into the more generalized environment of both "hard" and "soft" workplace skills preparation. More focused on the organizational needs of unions, labor education as a field has yet to embrace the broader issues embedded in the concept of worker-centered learning.

Although labor educators and adult educators continue to wrestle with their appropriate roles in relation to training and worker-centered learning, a number of unions have moved to operationalize many of its components. The next section examines some of these efforts. Of particular importance is the question of whether the direct participation of organized labor in the design and implementation of work-based education can really be considered worker-centered learning, or is it more a union variant of traditional management training practices? Similarly, does the existence of an active, independent voice for wage earners at the job site change the fundamental scope and nature of the learning that takes place there? Finally, if there are significant differences, what are the implications for wage earners, employers, and policymakers in terms of preparing Americans to be productive and creative workers?

Old Wine in New Bottles?

Innovations in the Auto Industry

Although construction unions and some industrial unions in the post-World War II era helped to run traditional apprenticeship programs for skilled workers, organized labor generally shied away from significant involvement in the education or training of its members (Thomas and Kochan 1992). This was due, at least in part, to the fact that training, unlike wages, hours, or working condition, was not a mandatory subject of collective bargaining. Added to this was the fact that skills training was viewed as a management responsibility. Union education efforts tended to focus on the training of leadership to deal with the negotiation and enforcement of contracts rather than on broader, noneconomic, workplace issues.

The massive reorganization of work that commenced in the 1970s shattered long-held assumptions. Challenged by employers to assume a more direct role in the operation of the workplace, some segments of the labor movement began to reassess their responsibility to their members in terms of a direct engagement in work-based education and training. Predictably, some of the earliest experiments took place in one of the industries most directly affected by the changing nature of work, namely automobiles. Despite numerous plant closures, massive layoffs and escalating imports, the United Auto Workers (UAW) retained considerable, though weakened, bargaining power. In exchange for its cooperation in rationalizing production, the UAW gained input into the training and education of its members at a number of major firms.

One of the most extensive joint efforts was the Employee Development and Training Program (EDTP) negotiated between the UAW and Ford in 1982 (Ferman, Hoyman, and Cutcher-Gershenfeld 1990; Rosow and Zager 1988; Sickler 1988). Funded by a 5-cent contribution for every 60-minute shift worked by hourly employees, the EDTP originally addressed the retraining needs of laid-off wage earners. From this point, the program was expanded in 1984 to encompass six major components (Tomasko and Dickinson 1991, p. 59):

- Tuition assistance
- Basic skills enrichment
- Retirement planning
- A higher education option
- A targeted program for experimenting with innovative learning projects
- A counseling and life planning initiative

The last component, officially known as the Life/Education Planning Program (L/EPP), represented the cornerstone of the entire operation. Working through a network of life/education advisers, the program was designed to help UAW-represented workers "assess their resources, consider or reconsider personal goals, and outline ways in which those and other goals could be met using many

resources, including the Ford-UAW programs" (Gordus, Kuo, and Yamakawa 1991, p. 157). Separate and apart from job skills training, L/EPP was intended as a career development mechanism geared to the needs of the individual worker. The knowledge gained through such efforts could be put to use on the shop floor. However, there was a clear recognition that participants could use L/EPP to establish whole new careers outside of the auto industry.

The expansion of EDTP in 1984 did not neglect the issue of job skills development. It provided funds for individual plants to establish customized training programs to meet specific local needs. Labor and management at Ford's Sharonville, Ohio, plant took advantage of the provision to establish their own extensive training program when the plant retooled to produce an innovative truck transmission in the mid-1980s.

Composed of union and company representatives, the Launch Training Team designed an 80-hour course that provided both skilled trades people and production workers with the basic skills that were required before they could learn to run new, highly sophisticated, equipment. The basic skills training was followed by an additional 40 hours of "soft" teamwork training. Much of the teaching was done by shop floor workers with the requisite skills, and instructional techniques were geared to the learning needs of production workers in their 40s and 50s. Teams of Ford employees even worked with a number of equipment vendors to guarantee that the training required to operate specific machines was consistent with the learning approach established by Sharonville personnel (Rosow and Zager 1988; Sickler 1988).

EDTP, renamed the Education, Development and Training Program, continued to expand throughout the 1980s and 1990s. In 1996, the company and the union agreed to develop "a university-style approach to workplace education," under the auspices of the EDTP. This represented a melding of their joint experience with workplace learning and the popular thinking in the field. Their long-term goal was to create "a new learning organization, that encompasses all educational activities undertaken by employees both inside and outside the workplace" (Detroit News 1996).

The UAW and Ford outlined a number of specific goals for their new initiative:

- Recognize and reward group and individual achievement
- Provide research and development on advanced education, training, and communications technologies
- Prepare UAW-Ford workers for the workplace of the next century

A critical element in the development of their new learning organization was a shift in administrative control from the national to the local level. Hourly workers gained a major role in every aspect of training and education, assuming responsibility for the design and administration of the program on an ongoing basis. The 1996 agreement also provided additional funding for onsite learning centers and expanded their role to include technical skills training. In 1993, EDTP had

established a joint labor-management Technical Skills Program that was separate from other work force development efforts. It became clear, 3 years later, that skills training was an integral part of a comprehensive workplace learning strategy.

Labor-management work force education efforts initially took a different trajectory at General Motors. As part of their 1984 contract negotiations, the company and the United Auto Workers established the UAW-GM Human Resource Center. Funded in similar fashion to the UAW-Ford EDTP program, the center's first efforts revolved around the establishment of the Paid Educational Leave (PEL) program (Ephlin 1986).

According to Schurman, Hugentobler, and Stack (1991): "Unlike previous training programs aimed primarily at narrow job training, the aim of the new training was to familiarize union representatives with the complexities of the automobile business" (p. 77). Its primary goal was to get top union officials to begin to think strategically about their future role in a rapidly changing industry. Taking a page from adult education, PEL addressed such issues as planning, international competition, the current and future state of the auto industry, public policy, and changing technology.

Although they valued the content of PEL, participants in some of the early 4-week classes felt that a wider segment of GM employees should be exposed to the training. They successfully pushed for inclusion of management in their sessions and for the establishment of a condensed, 1-week local version of PEL that has been made available to all hourly and salaried personnel (Ferman, Hoyman, and Cutcher-Gershenfeld, 1990).

In addition to the PEL program, the 1984 negotiations also established the Job Opportunity Bank Security System (JOBS). Jointly administered by the company and the union on both the national and local level, it provided most laid-off workers with income security while they were being retrained for other jobs within GM or were learning new skills that might help them find other types of employment (Warren 1986).

Joint efforts to provide employment security through training and skills upgrading were further developed through establishment of the UAW-GM Quality Network in 1987. Designed to unify all the various workplace change efforts then underway throughout the corporation, it emphasized organizational learning by all employees as the key to maintaining and improving product quality and service delivery. "Continued education and training at all levels support these new ideas and prepare the path for innovation and breakthrough. The mindset of continuous improvement pushes the quality system cycle to higher levels as learning takes place" (Weekley and Wilber 1996, p. 290).

The UAW-GM Human Resource Center assumed responsibility for all learning related to the Quality Network. This included the training of GM employees on quality-related issues, techniques and practices as well as helping workers improve their general levels of educational attainment. The expiration of the JOBS pro-

gram in 1993 left the Human Resource Center as a major focal point of education and training within General Motors.

Subsequent negotiations, in 1996, broadened the scope of employee learning for UAW members at General Motors:

> These new initiatives reflect the shared commitment of the UAW and General Motors to prepare UAW-represented GM employees for the work environment of the next century. But more than that, these initiatives reflect the UAW's commitment to creatively use the collective bargaining process to help members with life beyond the workplace, such as a parent's desire to help a child pay for college or a retiree's urge to continue learning. In short, the new education initiatives and improvements to existing programs are based on a clear understanding that the need and desire to learn truly does last a lifetime. (United Auto Workers 1996, n.p.)

In addition to expanding monetary benefits, the 1996 contract provided for greater union input into the determination of training objectives, the use of external vendors, and the implementation of new learning systems when UAW members were directly affected by technological change or the reorganization of work. The company and the union also committed themselves to developing a certification process for all employees responsible for joint training and education efforts. Similarly, they agreed to pursue the idea of offering college credits for all activities sponsored by the Center for Human Resources. Building upon these initiatives, GM and the UAW extended greater control over the design and budgeting of training activities to local joint committees in their 1999 collective bargaining agreement (United Auto Workers 1999).

Perhaps the most important experiment in organizational learning at GM took place outside the traditional confines of the company, at its Saturn corporation. Designed by a joint UAW-GM team, it was to operate as an independent, free-standing, entity. Although its ostensible goal was to produce a high-quality small car to compete with Japanese imports, many of its supporters envisioned it as a learning laboratory. They believed that it could develop new production systems, management techniques, and human resource policies, even with its work force of laid-off or currently employed GM workers. Lessons learned there would then be applied to the parent company in order to improve its competitive position.

Critical to the original vision of the company was continual and extensive workplace learning, rooted in Senge's formulation of the Fifth Discipline (Sherman 1994, p. 25). The entire operation of the corporation, from design to production, marketing, and retail sales, was to operate on the basis of continual improvement through organizational learning (Mai 1996). This was reflected in the compensation structure of the firm.

Saturn employees received a base salary that was 90 percent of what the average unionized U.S. auto worker made. The other 10 percent was paid when certain company-wide training targets were met. Both management and labor were

expected to spend 5 percent of their annual work time, approximately 92 hours, in some form of training. Subjects could range from production-related skills training to General Educational Development (GED) preparation, with each employee responsible for developing an individualized learning program. This yearly educational requirement was in addition to the initial training each new employee received, which could last anywhere from 350-700 hours (Pil and Rubinstein 1998, p. 365).

Beyond the Auto Makers

The linkages between individual development, organizational learning, and continuous quality improvement are equally evident outside of the auto industry. As a new corporate entity, Saturn had a distinct advantage over already existing firms in its ability to create a comprehensive learning environment. Although somewhat burdened by the long institutional memories of both the United Auto Workers and General Motors, its status as a true greenfield (startup) organization allowed it move beyond the confines of traditional thinking on the appropriate role of work-based training and education.

Corning Glass, a far older company, journeyed in a similar direction based mainly on the quality of the relationship that had developed over the years between the company and the American Flint Glass Workers Union. A strong demand for picture tubes and other glass products through the 1960s had contributed to organizational inertia for both the union and Corning. Fierce international competition in the 1970s led to a wave of plant closings and major declines in union membership. Viewing improved product quality as the key to survival, the firm established a Corporate Quality Council in 1983.

The council, through the Corning Quality Institute, put all employees through a quality awareness course. Although the union gave tacit approval to the process, it did not insist on playing a major role in its implementation (Hickey 1988). This proved to be an increasing problem as the gap between the goals of the initiative and the reality of day-to-day operations continued to grow.

The reopening of a closed plant in Blacksburg, Virginia, in 1987 provided the opportunity for the Flint Glass Workers to assume greater responsibility for workplace change at Corning. A joint "Partnership in the Workplace" provided for the "encouragement for individual creativity and participation to maximize the human potential" and "provision of avenues for individual growth and development within the workplace and the company" (Bankowski, Jonas, and Scarselletta 1995, p. 138).

In order to achieve these and related goals, the union and the company set a target of 5-15 percent of total work time to be set aside for training (Appelbaum and Batt 1994; Rosow and Zager 1988). Much of the workplace learning is conducted by specially trained shop floor employees. Teams of workers design individualized training programs that provide for the systematic acquisition of critical workplace skills. Although much of Corning's approach bears close resem-

blance to Saturn's, there appears to be far less emphasis at the former on nonwork-related education than at the latter.

The education and training program developed by the Communications Workers of America (CWA), the International Brotherhood of Electrical Workers (IBEW), and AT&T comes close to embracing the concept of worker-centered learning. Forged in 1986, in the wake of telecommunications deregulation, widespread technological change, and continuous corporate restructuring, the mission of the joint Alliance for Employee Growth and Development is to prepare incumbent and redundant employees for future careers both inside and outside of the industry. According to Treinen and Ross (1991), the alliance has four major goals:

1. To develop employment security among union-represented employees
2. To develop a human resource development program that is driven by program participants (i.e., the content and administration of the program are derived from the expressed needs and wants of the participants)
3. To develop opportunities for union-represented employees to advance both in the internal and external labor markets
4. To develop a measure of empowerment among local union-management committees of the alliance and union-represented employees

A jointly owned, nonprofit corporation, the alliance operates through over 300 locally based labor-management committees (Keefe and Boroff 1994). These entities are organized in response to perceived need on the part of company employees in a particular location. The primary function of the local committees is to link people with available educational resources both inside and outside of AT&T. This entails a considerable amount of assessment, counseling, and post-training evaluation. Activities such as these have been of particular importance when it has become apparent that there will be significant work force reductions at specific work locations. In addition to identifying service vendors, local committees help workers seek positions within the company and provide them with the training that will allow them to meet the entry-level requirements of their new jobs (Knoke 1994).

The alliance does not provide specific job-skills training; that remains the responsibility of the company. Even here, however, both the IBEW and CWA have input into that function through the Workplace of the Future initiative. This is a far-reaching attempt by the company and its unions to look strategically at the future of the firm and to determine jointly how AT&T can remain competitive and still provide a significant measure of job security for its employees. A jointly staffed Human Resource Board is charged with making recommendations to the company on "critical issues affecting people," including technological change and the organization of work (Keefe and Borof 1994, p. 355).

By virtue of the size of its corporate parent, the alliance represents the most extensive joint training effort in the telecommunications industry. This has not deterred many of the "Baby Bells" and their unions from proceeding along a similar path. Pac Bell, CWA, and California's Employment Training Panel began

to work together as early as 1983 to provide training for company employees threatened with layoffs. This was expanded to encompass both general pretaining to prepare people for potential work force reductions and job-specific training. The latter, conducted during working hours, was designed to help employees recently transferred from other positions within the company learn necessary job skills as quickly as possible (Casner-Lotto 1988, p. 161).

The Communications Workers and the IBEW teamed up with another Baby Bell, US West Communications, to establish Pathways to the Future, a comprehensive training and retraining program. An important facet of Pathways was the assumption that ongoing changes in the industry required continuous learning throughout an employee's career. Self-assessment instruments would help each individual determine their baseline of requisite skill levels within a particular job function. From that point a "training pipeline" was developed that would allow the person to acquire new skills continually as the nature of their job changed. In addition to technical skills, workers would also be trained in such "soft" skills as interpersonal communications and conflict management (Boyle and Pisha 1995).

Economic restructuring was the major impetus for the Employment, Training and Job Security program, established by 1199 National Health and Human Services Union/SEIU (Service Employees International Union) and the League of Voluntary Hospitals in New York City. The conversion of many voluntary hospitals to for-profit status, managed health care, the redefinition of many traditional job titles, and diminished state funding raised major concerns about future economic security for 1199 members. Run by a joint union-management board of trustees, the program is funded through negotiated employer contributions, as well as state and federal grants.

Its three components address the diverse needs of 1199's membership. Although the Training Fund originally focused on upgrading people into a limited range of technical and professional jobs, changing circumstances forced it to redefine its goals. The fund's major concerns today are as follows (National Health and Human Services Union/SEIU 1999, p. 6):

- Enabling members to keep their jobs as new skill requirements are added
- Ensuring that as many members as possible get education in an industry that will have less and less need for workers without computer literacy, language, and people skills
- Continuing to provide upgrading opportunities

In order to accomplish these goals, three interrelated funding mechanisms have been established. The Training Fund focuses on the traditional educational needs of both employed and laid-off 1199 members. In addition to providing funds for health care workers to upgrade existing job skills or obtain new ones, it makes financial support available for members who want to get their GEDs or attend college. Employees who are looking for new positions, whether out of choice or necessity, can use the resources of the Planning and Placement Fund, which operates an employment center. It also works with management to find creative solutions to keep people in existing jobs.

The Job Security Fund specifically addresses the needs of laid-off members. That fund provides people with health benefits and up to 80 percent of their salaries for 2 years as they seek new employment or participate in retraining programs. It also helps affected union members with the basic skills needed to obtain new positions, resume preparation, time management, and interviewing techniques (ibid.).

In a sense, Local 1199 has embraced a variant of organizational learning in that it is attempting to shape the workplace of tomorrow through the involvement and participation of its membership, both individually and collectively. By facilitating professional development and personal growth across a wide range of occupational categories, the 1199 Employment, Training and Job Security program has the potential to help redefine the nature of work in hospitals and other health-related work sites.

Rooted in a realistic assessment of the future of health care in New York City, the entire education and training program is organized around what work will be like in the years ahead as well as what employees need today on a daily basis. Since each worker has proprietary control over his or her learning experience, 1199 members are helping to determine the course of their own careers.

Worker-Centered Learning?

The very diversity of the workplace education initiatives described here complicates the effort to identify a singular model of worker-centered learning. Each training entity reflects the economic conditions specific to its particular industry, as well as the nature of its labor-management relations over time. The one thing they all have in common is a focus on the long-term vocational interests of individual workers. Although organized labor takes the lead in negotiating the structure, funding, operation, and staffing of these programs, each wage-earner determines whether he or she will participate and at what level. Although the rationale for union involvement is based on the widely touted notion that organizational success is rooted in the quality of the work force, it identifies the individual, rather than the organization, as the focal point of concern.

It is at this juncture that worker-centered learning parts company with other models of workplace learning. Whether a company sticks with traditional training methods or attempts to transform itself into a learning organization, the imperative is still the same; education in whatever form must have direct economic utility to the firm. According to Cappelli (1999), "The problem is rather more complicated for employers who are considering investments in their employees…They weigh the costs of investments made in worker skills against the stream of benefits they expect from having more skilled employees" (p. 46).

Although unions do have a vested interest in the economic viability of employers as a guarantor of job security for their members, there is a clear recognition that such security is becoming increasingly elusive. Although unions such as the UAW continue to push hard on the issue of continuing employment, there is also a

growing recognition, in the labor movement, that long-term careers with one organization are a thing of the past. From both a practical and a philosophical perspective, organized labor has to play a role in helping its members prepare for future work. Some unions have started to realize that their core industries will continue to shrink and that many current members will have to leave in order to earn a living. By helping to provide them with the means to make a successful transition to other work, the unions hope that they will retain their loyalty to the labor movement.

CWA and the IBEW, faced with a different set of issues, are attempting to gain leverage in their industry by helping to shape the future skill base of the work force. The notion of education and training as a strategic tool is also being used by hotel, casino, and restaurant workers in San Francisco and Las Vegas where their unions are assuming a direct responsibility for providing employers with a consistent supply of skilled help.

Saturn and the 1199 Employment, Training and Job Security program come closest to exemplifying worker-centered learning. Organizational imperatives and personal needs are both served by the vocational and intellectual growth of wage earners. Each environment encourages workers to envision the future and make individual decisions as to what role they will play in that evolutionary process. Embedded educational strategies are geared to maximizing people's ability to take full advantage of the opportunities present. Continuous learning becomes a necessity, rather than a luxury, if one is to remain employed in jobs that provide decent wages and benefits.

By struggling to place employee needs and organizational concerns on the same plain, the UAW and, to a lesser extent, 1199 have gained significant input into the nature and structure of fundamental work processes. Learning partnerships become part of broader operational partnerships which ultimately result in the tangible empowerment of working men and women, the often stated, but rarely attained goal, of employer-dominated forays into organizational learning.

Wherever one falls on the labor-management spectrum, the reality is that true models of work-centered learning remain as rare as examples of bona-fide organizational learning. Limited by a history of adversarial relations, most employers and unions are not yet at the point where they can find common ground, even when they are faced with major threats to the survival of the firm or the industry. It is especially difficult for management to conceive of sharing any degree of power with organized employees.

Small steps in this direction have been taken in some segments of the telecommunications industry. In exchange for assuming greater collective and individual responsibility for the daily operation of their companies, unions have obtained guarantees of neutrality from corporate leaders in response to future organizing drives. This is in addition to the establishment of joint labor-management control over significant amounts of workplace education and training. This willingness to relinquish even a minimal amount of power remains the exception rather than

the rule. Until something happens to modify the dynamic of management control in the workplace, worker-centered learning will remain an infrequent component of work force development efforts.

Conclusion

Attempts at a critical evaluation of workplace learning in America at the dawn of a new century are hampered by a literature that lacks conceptual coherence and methodological rigor. There are a number of reasons for this state of affairs. First and foremost is the fact that workplace education is an industry unto itself. The billions of dollars spent on training each year attract all kinds of individuals to the field. Ceaseless employer demands for instantly effective, foolproof learning strategies lead to the production of thousands of publications full of advice for current and future organizational leaders.

As books by Tom Peters become best sellers, other authors struggle to develop new approaches that will place them in the pantheon of management gurus. Even though many of these people have advanced academic credentials, the key to success is accessible, snappy prose that can be digested in small segments by busy executives on the run. Personal experience and anecdotal evidence form the factual foundations of this literary genre. Notes and bibliographies, where they exist, usually list similar sources.

Journal articles written by adult educators, human resource professionals, industrial relations practitioners, behavioral psychologists, economists, or labor educators attempt to apply more rigorous standards to the examination of work-based education and training. Since respective communications are in different disciplinary languages, however, there is a great deal of intellectual dissonance attached to the issue. Each academic subspecialty constructs frames of reference separate from those developed in other fields.

Spanning the gamut from first-person, experiential writing to highly nuanced, theoretical constructs, this broad and diverse literature does share a common trait; it is mainly geared to producing usable models rather than analyzing empirical data. In fact, it is the very absence of a significant body of quantitative information from all disciplines that makes a serious examination of workplace learning in the United States so problematic (Sarmiento 1994). Most existing data, based on surveys of employers, focuses on the scope of training, its funding, or the numbers of people who participate. In contrast to Hollenbeck's (1993) study of workplace literacy programs, little effort has been made to measure training effectiveness, either in its impact on job retention and advancement or in adding value to the organization.

Since employers constitute the target audience for the intellectual output of nonacademics and many academics, little attention has been paid to the impact of training on individual employees. The information that does exist about the reality of training as experienced by working men and women is drawn mainly from case study literature. Produced by scholars largely sympathetic to workers and their organizations, this information tends to be time fixed.

Graham's description of training at Subaru-Isuzu Automotive is a case in point (1995). Although her descriptions of the firm's training practices, workers' attitudes toward that training, and the gap between training and actual shop floor operations are doubtlessly accurate, they were all a product of Graham's tenure during the start-up phase of a new plant. Without subsequent empirical research, it is impossible to judge whether her experience was truly reflective of SIA's corporate culture or whether it was an aberration typically found in new facilities. Unfortunately, there are no studies of that kind currently available.

The descriptive literature on the kinds of joint labor-management initiatives that could be considered examples of worker-centered learning also lacks intellectual rigor. The peculiar power dynamics that underlie most cooperative efforts makes critical inquiry difficult. Employers, unions, and academics who provide support for these programs have to justify their decision to do so to their respective constituencies and to themselves. In print and various public forums, they usually tout the value of joint efforts while making only passing reference to difficulties inherent in such relationships.

An example of this is the examination of the UAW-GM PEL program by Schurman, Hugentobler, and Stack (1991). Their ability to evaluate critically specific outcomes of the program was limited by the fact that they helped to design and implement this innovative approach to employee learning. Given the inherent tensions that exist in all union-management relationships, it would have been difficult for the three authors to illuminate sharply the limitations of the PEL program. A really critical analysis might lead one or the other party to pull the plug on the program, despite its longevity and apparent success.

These types of sensitivities permeate most accounts of labor-management cooperation. Added to this is the fact that few of these studies focus on the question of workplace learning. Questions of organizational politics, technological change, and productivity improvement usually take center stage; education is viewed as a necessary, if peripheral, issue.

Solid quantitative and qualitative research could help to resolve many of the issues related to workplace learning raised in the preceding pages. Research is needed on the following questions:

- Although it appears that there has been a significant increase in the amount of employer-provided education and training in recent years, how much of it is addressed to nonmanagerial employees?
- Are rank and file workers being adequately trained to handle the rapid changes in work practices fostered by the constant evolution of computer-based technology?
- Have there really been extensive changes in delivery systems or is most train ing still based on a classroom structure that emphasizes traditional teacher-pupil relationships?
- Is most employer-provided training focused on preparing employees to perform specific job tasks rather than on providing them with broader, transferable work skills?

The major assumption underlying all these points is that future workers will have multiple careers. They will need a broad array of skills and knowledge that will require constant upgrading and reenforcement. From this perspective, another set of questions arises specifically related to the concepts of organizational and worker-centered learning:

- Can such an array of occupational skills be obtained through traditional education and training mechanisms or is some form of organizational learning necessary to achieve that goal?
- Is the implementation of organizational learning limited by the pervasive American concern for short-term profits over long-term investment and planning?
- Even where organizational learning has been embraced, is there a point at which the immediate needs of the firm must take precedence over individual employee development?

If it is found that organizational learning proves incompatible with the competitive demands of global free enterprise, is worker-centered learning a viable alternative? Embedded in this question is the issue of power. Given the history of labor-management relations in the United States, the prospect of active union involvement in shaping and implementing workplace learning would appear to be quixotic at best. Technological change, aggressive pursuit of free trade, embarrassingly weak labor laws, and an overall lack of government support, have all contributed to an ongoing decline in union density. As organized labor's percentage of the work force continues to shrink, so has its bargaining power in many segments of the economy. Few employers embrace genuine partnerships with labor organizations solely by choice; they do so when a union has enough clout to force the issue and where the firm's competitive position will not be undermined by developing such a relationship.

This is where the current research gap becomes most apparent. The existence of hard data either confirming or refuting the positive impact of labor-driven, worker-centered learning on both the individual and the organization might help to elevate the public dialogue on the appropriate role of trade unionism in a democratic society. In a sense, this discussion is part of a much larger debate as to the responsibility of government and/or society for the welfare of its citizens.

As economic and political power continues to devolve from Washington to the states and corporate entities, questions can be raised as to whether there exists a true national commitment to the upgrading of the U.S. work force. Rhetoric aside, the piecemeal nature of current efforts and the lack of a comprehensive vision or plan for the future, should raise serious concerns about what lies ahead for significant numbers of U.S. workers.

Can wage earners really shape their own careers within profit-driven institutions if they do not have an independent voice? Even though considerable resources are currently being devoted to workplace education, are individual employees actually obtaining the cutting-edge skills they need to succeed an increasingly

technological environment? If each corporation or political entity develops its own skill standards or training parameters, will working men and women really have the mobility necessary to succeed in an era of constricted job security?

These, and a host of similar questions, need to be examined both inside and outside the academy. Employers, scholars, policymakers, unions, practitioners, and individual workers all have a stake in the outcome of such an exploration. Along the way they will have to wrestle with real questions of fairness, power, equity and, ultimately, the meaning of both economic and political democracy. For average citizens to have meaningful control over their lives on the job, they must have a real say about the conditions under which they work and learn. When all is said and done, that is the real foundation of empowerment for current and future generations of American workers.

References

Items with ED numbers may be ordered from the ERIC Document Reproduction Service, 7420 Fullerton Road, Suite 110, Springfield, VA 22153-2852; 703/440-1400; toll-free (United States and Canada): 800/443-3742; fax: 703/440-1408; e-mail: service@edrs.com; http://edrs.com

Appelbaum, E., and Batt, R. ***The New American Workplace : Transforming Work Systems in the United States.*** Ithaca, NY: ILR Press, 1994.

Argyris, C. ***Personality and Organization: The Conflict between the System and the Individual***. New York: Harper and Row, 1957.

Argyris, C., and Schön, D. A. ***Organizational Learning***. London: Addison-Wesley, 1978.

Baldwin, T. T., and Ford, J. K. "Transfer of Training: A Review and Directions for Future Research." ***Personnel Psychology*** 41, no. 1 (Spring 1988): 63-105. (ERIC No. EJ 371 658)

Baldwin T., and Majuka, R. "Training an Organizational Episode: Pretraining Influences on Trainee Motivation." In ***Improving Training Effectiveness in Work Organizations***, edited by J. K. Ford, pp. 99-127. Mahwah, NJ: Lawrence Erbaum Associates, 1997

Bankowski, L.; Jonas, H.; and Scarselletta, M. "Total Quality at Corning: The Role of the American Flint Glass Workers Union." In ***Unions, Management and Quality: Opportunities for Innovation and Excellence***, edited by E. Cohen-Rosenthal, pp. 129-145. Chicago: Irwin, 1995.

Bassett, G. ***Evolution and Future of High Performance Management Systems***. Westport, CT: Quorum, 1993.

Bassi, L.; Gallagher, A.; and Schroer, E. ***The ASTD Training Data Book***. Alexandria, VA: American Society for Training and Development, 1996.

Bentley, T. ***The Business of Training***. London and New York: McGraw Hill, 1990.

Bluestone, B., and Bluestone, I. ***Negotiating the Future: A Labor Perspective on American Business***. New York: Basic Books, 1992.

Boyle, K., and Pisha, S. "Building the Future through Quality Unions in the Telecommu-nications Industry." In ***Unions, Management and Quality: Opportunities for Innovation and Excellence***. edited by E. Cohen-Rosenthal, pp. 147-186. Chicago: Irwin, 1995.

References

Braverman, H. ***Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century***. New York: Monthly Review Press, 1974.

Brinkerhoff, R. O., and Gill, S. J. ***The Learning Alliance: Systems Thinking in Human Resource Development***. San Francisco: Jossey-Bass Publishers, 1994.

Brown, C. "Empirical Evidence on Private Sector Training. Background Paper no. 7a." ***Investing in People, vol. 1***, pp. 301-330. Washington, DC: Commission on Workforce Quality and Labor Market Efficiency, U.S. Department of Labor, 1989. (ERIC Document Reproduction Service No. ED 317 671)

Byrd, M. "Creating a Learning Organization by Accident." In ***Learning Organizations: Developing Cultures for Tomorrow's Workplace*** edited by S. Chawla and J. Renesch, pp. 477-487. Portland, OR: Productivity Press, 1995.

Cappelli, P. ***The New Deal at Work: Managing the Market-Driven Workforce***. Boston: Harvard Business School Press, 1999

Carnevale, A. ***America and the New Economy: How Competitive Standards Are Radically Changing American Workplaces***. San Francisco: Jossey-Bass Publishers, 1991.

Carnevale, A., and Goldstein, H. "Schooling and Training for Work in America: An Overview." In ***New Developments in Worker Training: A Legacy for the 1990s,*** edited by L. Ferman, M. Hoyman, J. Cutcher-Gershenfeld, and E. Savoie, pp. 25-54. Madison, WI: Industrial Relations Research Association, 1990.

Casner-Lotto, J. "Pacific Bell and the Communications Workers of America: Retraining for the Computer Age." In ***Successful Training Strategies: Twenty-Six Innovative Corporate Models***, edited by J. Casner-Lotto and Associates. pp. 158-171. San Francisco: Jossey-Bass Publishers, 1988.

Chao, G. "Unstructured Training and Development: The Role of Organizational Socialization." In ***Improving Training Effectiveness in Work Organizations***. edited by J. K. Ford, pp. 129-151. Mahwah, NJ: Lawrence Erlbaum Associates, 1997

Cohen-Rosenthal, E., and Burton, C. E. ***Mutual Gains: A Guide to Union-Management Cooperation***. New York: Praeger, 1987

Conger, J. A., and Kanungo, R. N. "The Empowerment Process: Integrating Theory and Practice." ***Academy of Management Review*** 13, no. 3 (July 1988): 471-482.

Cooke, W. N. ***Labor-Management Cooperation: New Partnerships or Going in Circles?*** Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, 1990. (ERIC Document Reproduction Service No. ED 325 661)

Cotton, J. L. ***Employee Involvement: Methods for Improving Performance and Work Attitudes***. London: Sage Publications, 1993.

Delaney, J.; Lewin, D.; and Ichniowski, C. ***Human Resource Policies and Practices in American Firms,*** Washington, DC: Bureau of Labor-Management Relations and Cooperative Programs, 1989.

Detroit News. "The Ford-UAW Contract–Education." ***Special Section. Detroit News***, September 20, 1996.

Devinatz, V. G. ***High-Tech Betrayal: Working and Organizing on the Shop Floor.*** East Lansing: Michigan State University Press, 1999.

Doeringer, P. B.; Evans-Klock, C.; and Terkla, D. "Hybrids or Hodgepodges? Workplace Practices of Japanese and Domestic Startups in the United States." ***Industrial and Labor Relations Review*** 51, no. 2 (January 1998): 171-186.

Dwyer, R. "Workers' Education, Labor Education, Labor Studies: An Historical Delineation." ***Review of Educational Research*** 47, no. 1 (Winter 1977): 179-207. (ERIC No. EJ 161 391)

Eaton, A. E. "The Survival of Employee Participation Programs in Unionized Settings." ***Industrial and Labor Relations Review*** 47, no. 3 (April 1994): 371-389. (ERIC No. EJ 480 610)

Eaton, A. "New Production Techniques, Employee Involvement and Unions." ***Labor Studies Journal*** 20, no. 3 (1995): 19-41.

Edwards, R. ***Contested Terrain: The Transformation of the Workplace in the Twentieth Century***. New York: Basic Books, 1979.

Ephlin, D. "United Autoworkers: Pioneers in Labor-Management Partnership." ***Teamwork: Joint Labor-Management Programs in America***, edited by J. M. Rosow, pp. 133-145. New York: Pergamon Press, 1986.

Ferman, L., and Hoyman, M. "Service Delivery in Joint Training Programs." In ***Joint Training Programs: A Union-Management Approach to Preparing Workers for the Future***, edited by L. Ferman, M. Hoyman, J. Cutcher-Gershenfeld, and E. Savoie, pp. 181-205. Ithaca, NY: ILR Press, 1991. (ERIC Document Reproduction Service No. ED 345 031)

Ferman, L.; Hoyman, M.; and Cutcher-Gershenfeld, J. "Joint Union-Management Training Programs: A Synthesis in the Evolution of Jointism and Training." In ***New Developments in Worker Training: A Legacy for the 1990s***. edited by L. Ferman, M. Hoyman, J. Cutcher-Gershenfeld, and E. Savoie, pp. 157-189. Madison, WI: Industrial Relations Research Association, 1990.

Fingeret, A. "The Social and Historical Context of Participatory Literacy Education." ***New Directions for Continuing Education***. no. 42 (Summer 1989): 5-15. (ERIC No. EJ 394 623)

References

Folinsbee, S. "Workplace Basics in the 1990s: Critical Issues and Promising Practices." ***New Directions for Adult and Continuing Education*** no. 68 (Winter 1995): 63-73. (ERIC No. EJ 522 503)

Fossum, J. "New Dimensions in the Design and Delivery of Corporate Training Programs." In ***New Developments in Worker Training: A Legacy for the 1990s.*** edited by L. Ferman, M. Hoyman, J. Cutcher-Gershenfeld, and E. Savoie, pp. 129-156. Madison, WI: Industrial Relations Research Association, 1990.

Frazis, H.; Herz, D.; and Horrigan, M. "Employer Provided Training: Results from a New Survey." ***Monthly Labor Review*** 118, no 5. (May 1995): 3-17. (ERIC No. EJ 504 575)

Freire, P. ***The Politics of Education***. Granby, MA.: Bergin and Carey Publishers, 1985.

Garvin, D. A. "Building a Learning Organization." ***Harvard Business Review*** 71, no. 4 (July-August 1993): 78-91.

Gittleman, M.; Horrigan, M.; and Joyce, M. "Flexible Workplace Practices: Evidence from a Nationally Representative Survey." ***ILR Review*** 52, no. 1 (October 1998): 99-113.

Gordus, J.; Kuo, C.; and Yamakawa, K. "Joint Programs for Lifelong Learning." In ***Joint Training Programs: A Union-Management Approach to Preparing Workers for the Future***. edited by L. Ferman, M. Hoyman, J. Cutcher-Gershenfeld, and E. Savoie, pp. 153-180. Ithaca, NY: ILR Press, 1991. (ERIC Document Reproduction Service No. ED 345 031)

Gowen, S. G. ***The Politics of Workplace Literacy: A Case Study***. New York: Teachers College Press, 1992.

Graham, L. ***On the Line at Subaru-Isuzu: The Japanese Model and the American Worker***. Ithaca, NY: ILR Press, 1995.

Hackett, B. ***The Value of Training in the Era of Intellectual Capital: A Research Report***. New York: Conference Board, 1997.

Handy, C. "Managing the Dream." In ***Learning Organizations: Developing Cultures for Tomorrow's Workplace,*** edited by S. Chawla and J. Renesch, pp. 45-55. Portland, OR: Productivity Press, 1995.

Haskell, R. ***Reengineering Corporate Training: Intellectual Capital and Transfer of Learning***. Westport, CT: Quorum, 1998.

Hawthorne, E. M. ***Evaluating Employee Training Programs: A Research-Based Guide for Human Resources Managers***. New York: Quorum Books, 1987.

Heaney, T., and Horton, A. "Reflective Engagement and Social Change." In ***Fostering Critical Reflection in Adulthood: A Guide to Transformative and Emancipatory Learning***. edited by J. MezirowJ and Associates. pp. 74-98. San Francisco: Jossey-Bass Publishers, 1990.

Heisler, W., and Benham, P. "The Challenge of Management Development in North America in the 1990s." ***Journal of Management Development*** 11(1992): 16-31.

Herrick, N., and Maccoby, M. "Humanizing Work, a Priority Goal of the 1970s." In ***The Quality of Working Life, vol. 1***, edited by L. Davis and A. Cherns, pp. 63-77. New York: Free Press, 1975.

Herzenberg, S. A., Alic, J. R., and Wial, H. ***New Rules for a New Economy: Employment and Opportunity in Postindustrial America***. Ithaca, NY: ILR Press, 1998.

Hewes, A. "Early Experiments in Workers' Education." ***Adult Education***. 6, no. 1 (Autumn 1956): 211-220.

Hickey, J. "Corning Glass Works: Total Quality as a Strategic Response." In ***Successful Training Strategies: Twenty-Six Innovative Corporate Models***, edited by J. Casner-Lotto and Associates, pp. 62-77. San Francisco: Jossey-Bass Publishers, 1988.

Hoffman, F., and Withers, B. "Shared Values: Nutrients for Learning." In ***Learning Organizations: Developing Cultures for Tomorrow's Workplace,*** edited by S. Chawla and J. Renesch, pp. 463-474. Portland, OR: Productivity Press, 1995.

Hollenbeck, K. ***Classrooms in the Workplace: Workplace Literacy Programs in Small and Medium-Sized Firms***. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, 1993. (ERIC Document Reproduction Service No. ED 365 843)

Hull, G. "Hearing Other Voices: A Critical Assessment of Popular Views on Literacy and Work." ***Harvard Educational Review*** 63, no. 1 (Spring 1993): 20-49.

Jacobs, J. "Lean Production and Training: The Case of a Japanese Supplier Firm." In ***Lean Work: Empowerment and Exploitation in the Global Auto Industry,*** edited by S. Babson, pp. 311-325. Detroit: Wayne State University Press, 1995.

Johnston, W. ***Labor Initiated Literacy Programs in Canada***.. Ottawa: National Literacy Secretariat, 1994.

Juravich, T.; Harris, H.; and Brooks, A. "Mutual Gains?: Labor and Management Evaluate Their Employee Involvement Programs." ***Journal of Labor Research*** 14, no. 2 (Spring 1993): 165-185.

Jurmo, P. "The Case for Participatory Literacy Education." ***New Directions for Continuing Education*** no. 42 (Summer 1989): 17-28. (ERIC No. EJ 394 624)

Kakar, S. ***Frederick Taylor: A Study in Personality and Innovation.*** Cambridge, MA: MIT Press, 1970.

Kanigel, R. ***The One Best Way: Frederick Winslow Taylor and the Enigma of Efficiency***. New York: Viking Press, 1997.

Keefe, J., and Boroff, K. "Telecommunications Labor-Management Relations after Divestiture." In ***Contemporary Collective Bargaining in the Private Sector***, edited by P. Voos., pp. 303-371. Madison, WI: Industrial Relations Research Association, 1994.

Kenny, M., and Florida, R. ***Beyond Mass Production: The Japanese System and Its Transfer to the U.S.*** New York: Oxford University Press, 1993.

Kerfoot, D., and Knights, D. "Empowering the Quality Worker?: The Seduction and Contradiction of the Total Quality Phenomenon." In ***Making Quality Critical: New Perspectives on Organizational Change***, edited by A. Wilkinson and H. Willmott, pp. 219-239. London and New York: Routledge, 1995.

Knoke, D. "Company Job Training Programs and Practices." ***Looking Ahead*** (National Planning Association) 16, nos. 2-3 (October 1994): 25-29.

Knowles, M. ***The Adult Education Movement in the United States***. New York: Holt, Rhinehart and Winston, 1962.

Knowles, M. ***The Modern Practice of Adult Education***. rev. ed. New York: Cambridge, 1980.

Kornbluh, J. ***A New Deal for Workers' Education: The Workers' Service Program 1933-1942***. Urbana and Chicago, IL: University of Illinois Press, 1987.

Lagemann, E. C. "The Politics of Knowledge: The Carnegie Corporation and the Formulation of Public Policy." ***History of Education Quarterly*** 27, no. 2 (Summer 1987): 205-220. (ERIC No. EJ 353 082)

Law, M., and Sissons, L. "Involving Adults in Social Change Education." ***New Directions for Continuing Education*** no. 26 (June 1985): 69-85. (ERIC No. EJ 317 844)

Lawler, E. E., III. ***High Involvement Management***. San Francisco: Jossey-Bass Publishers, 1986.

Lawler, E. E., III; Mohrman, S. A.; and Ledford, G. E., Jr. ***Employee Involvement and Total Quality Management: Practices and Results in Fortune 1000 Companies.*** San Francisco: Jossey-Bass Publishers, 1992.

Lawler, E. E., III; Mohrman, S. A.; and Ledford, G. E., Jr. ***Creating High Performance Organizations: Practices and Results of Employee Involvement and Total Quality Management in Fortune 1000 Companies***. San Francisco: Jossey-Bass Publishers, 1995.

Lawrie, J. "Differentiate between Training, Education and Development." ***Personnel Journal*** 69, no. 10 (October 1990): 44.

Leonard-Barton, D. "The Factory as a Learning Laboratory." ***Sloan Management Review*** 34, no. 1 (Fall 1992): 23-38.

Lynch, L. M., ed. ***Training and the Private Sector: International Comparisons***. Chicago: University of Chicago Press, 1994

MacDuffie, J. P., and Kochan, T. P. "Do U.S. Firms Invest Less in Human Resources?: Training in the World Auto Industry." ***Industrial Relations*** 34, no. 2 (April 1995): 147-167.

Mai, R. P. ***Learning Partnerships: How Leading American Companies Implement Organizational Learning***. Chicago: Irwin, 1996.

Marquardt, M. J. ***Building the Learning Organization: A Systems Approach to Quantum Improvement and Global Success***. New York: McGraw Hill, 1996.

Marshall, R., and Tucker, M. ***Thinking for a Living: Education and the Wealth of Nations***. New York: Basic Books, 1992.

Marsick, V. J., ed. ***Learning in the Workplace***. London: Croom Helm, 1987.

Marsick, V. J., and Watkins, K. E. "Approaches to Studying Learning in the Workplace" In ***Learning in the Workplace***, edited by V. J. Marsick, pp. 171-198. London: Croom Helm, 1987.

Marsick, V. J., and Watkins, K. E. ***Informal and Incidental Learning in the Workplace***. London and New York: Rout ledge, 1990.

Martin, L. ed. ***Proceedings of the 13th Annual Midwest Research to Practice Conference on Adult, Continuing and Community Education***. Madison: University of Wisconsin, 1994. (ERIC Document Reproduction Service No. ED 378 359)

McLagan, P. "The Models." In ***Models for HRD Practice***. Alexandria, VA:, American Society for Training and Development, 1989.

McMillan, M. "Joint Training of Dislocated Workers: What Does It Take?" In ***Joint Training Programs: A Union-Management Approach to Preparing Workers for the Future***, edited by L. Ferman, M. Hoyman, J. Cutcher-Gershenfeld, and E. Savoie, pp. 113-128. Ithaca, NY: ILR Press, 1991. (ERIC Document Reproduction Service No. ED 345 031)

Meister, J. C. ***Corporate Universities: Lessons in Building a World-Class Work Force.*** New York: McGraw-Hill, 1998.

Miller, R.; Humphreys, R.; and Zeller, F. "Structural Characteristics of Successful Cases of Cooperative Union-Management Relations." ***Labor Studies Journal*** 22, no. 2 (Summer 1997): 44-65.

Morris, L. "Development Strategies for the Knowledge Era." In ***Learning Organizations: Developing Cultures for Tomorrow's Workplace*** edited by S. Chawla, and J. Renesch, pp. 447-487. Portland, OR: Productivity Press, 1995.

Nadler, L. "Defining the Field—Is It HRD or OD or...?" ***Training and Development Journal*** 34, no. 12 (December 1980): 66-68.

National Health and Human Services Employees Union/SEIU. ***1199 News*** 17, no. 4 (May 1999).

Nelson, D. ***Frederick Taylor and the Rise of Scientific Management***. Madison: University of Wisconsin Press, 1980.

Nevis, E. C., DiBella, A. J., and Gould, J. M. "Understanding Organizations as Learning Systems." ***Sloan Management Review*** 36, no. 2 (Winter 1995): 73-85.

Newstrom, J. W., and Lengnick-Hall, M. L. "One Size Does Not Fit All." ***Training and Development***. 45, no. 6 (June 1991): 43-48. (ERIC No. EJ 428 054)

Noe, R. A. ***Employee Training and Development***. Boston: Irwin/McGraw Hill, 1999.

Osterman, P. "How Common Is Workplace Transformation and Who Adopts It?" ***ILR Review*** 47, no. 2 (January 1994): 173-188.

Osterman, P. "Skill, Training and Work Organization in American Establishments." ***Industrial Relations*** 34, no. 2 (April 1995): 125-146.

Parker, M., and Jackson, N. "Training is Never Neutral." In ***Working Smart: A Union Guide to Participation Programs and Reengineering***, edited by M. Parker, and J. Slaughter, pp. 270-286. Detroit: The Labor Education and Research Project, 1994.

Peters, R., and McCarrick, J. "Roots of Public Support for Labor Education 1900-1945." ***Labor Studies Journal*** 1 (Fall 1976): 109-129.

Pil, F. K., and MacDuffie, J. P. "The Adoption of High Involvement Work Practices." ***Industrial Relations*** 35, no. 3 (July 1996): 423-455.

Pil, F., and Rubinstein, S. "Saturn a Different Kind of Company? In ***Between Imitation and Innovation: The Transfer and Hybridization of Productive Models in the International Automobile Industry***, edited by R. Boyer, E. Charron, U. Jurgens, and S. Tolliday, pp. 361-373. New York: Oxford University Press, 1998.

Piore, M. J., and Sabel, C. F. ***The Second Industrial Divide***. New York: Basic Books, 1984.

Ravid, G. "Self-Directed Learning in Industry." In ***Learning in the Workplace***, edited by V. J. Marsick, pp. 101-117. London: Croom Helm, 1987.

Roberts, M., and Wozniak, R. ***Labor's Key Role in Workplace Training***. Washington DC: AFL-CIO, 1994. (ERIC Document Reproduction Service No. ED 382 762)

Rolls, J. "The Transformational Leader: The Wellspring of the Learning Organization." In ***Learning Organizations: Developing Cultures for Tomorrow's Workplace*** edited by S. Chawla and J. Renesch, pp. 101-108. Portland, OR: Productivity Press, 1995.

Rosow, J. M., and Zager, R. ***Training - The Competitive Edge: Introducing New Technology Into the Workplace***. San Francisco: Jossey-Bass Publishers, 1988.

Rothwell, W. J., and Sredl, H. J. ***The ASTD Reference Guide to Professional Human Resource Development Roles and Competencies, vol. 1***, 2d ed. Amherst, MA: HRD Press Inc., 1992.

Salas, E.; Cannon-Bowers, A.; Rhodenizer, L.; and Bowers, C. "Training in Organizations: Myths, Misconceptions, and Mistaken Assumptions." ***Research in Personnel and Human Resources Management*** 17 (1999): 123-161.

Saganski, G. "A Worker-Centered Approach to Education and Training." In ***Lean Work: Empowerment and Exploitation in the Global Auto Industry,*** edited by S. Babson, pp. 326-339. Detroit: Wayne State University Press, 1995.

Sarmiento, A. R. "Articulation and Measurement of Program Outcomes." In ***Alternative Designs for Evaluating Workplace Literacy Programs***, pp. 5.1-5.13. Research Triangle Park, NC: Research Triangle Institute, March 1994. (ERIC Document Reproduction Service No. ED 375 312)

Sarmiento, A. R., and Kay, A. ***Worker-Centered Learning: A Union Guide to Workplace Literacy***. Washington, DC: AFL-CIO Human Resources Development Institute, 1990. (ERIC Document Reproduction Service No. ED 338 863)

Savoie, E., and Cutcher-Gershenfeld, J. "The Governance of Joint Training Initiatives." In ***Joint Training Programs: A Union-Management Approach to Preparing Workers for the Future***, edited by L. Ferman, M. Hoyman, J. Cutcher-Gershenfeld, and E. Savoie, pp. 207-227. Ithaca, NY: ILR Press, 1991. (ERIC Document Reproduction Service No. ED 345 031)

References

Schurman, S.; Hugentobler, M.; and Stack, H. "Lessons from the UAW-GM Paid Educational Leave Program." ***Joint Training Programs: A Union-Management Approach to Preparing Workers for the Future***, edited by L. Ferman, M. Hoyman, J. Cutcher-Gershenfeld, and E. Savoie, pp. 71-94. Ithaca, NY: ILR Press, 1991. (ERIC Document Reproduction Service No. ED 345 031)

Senge, P. ***The Fifth Discipline: The Art and Practice of the Learning Organization***. New York: Doubleday, 1990.

Sherman, J. ***In the Rings of Saturn***. New York: Oxford University Press, 1994.

Sickler, J. "Ford Sharonville: An Emphasis on User-Vendor Cooperation." In ***Successful Training Strategies: Twenty-Six Innovative Corporate Models***, edited by J. Casner-Lotto and Associates. pp. 211-222. San Francisco: Jossey-Bass Publishers, 1988.

Simmons, J., and Mares, W. J. ***Working Together: Employee Participation in Action***. London and New York: New York University Press, 1985.

Soifer, R.; Young, D.; and Irwin, M. "The Academy: A Learner-Centered Workplace Literacy Program." ***New Directions for Continuing Education*** no. 42 (Summer 1989): 65-72. (ERIC No. EJ 394 628)

Spender, J. "Villain, Victim or Visionary?: The Insights and Flaws in F.W. Taylor's Ideas." In ***Scientific Management: Frederick Winslow Taylor's Gift to the World?,*** edited by J. Spender and H. Kijne, pp. 1-32. Norwell, MA: Kluwer Academic Publishers, 1996.

Starr, M. "Workers' Education." ***Harvard Educational Review*** 1, no. 4 (Fall 1951): 243-264.

Steinmetz, C. "The History of Training." In ***Training and Development Handbook: A Guide to Human Resource Development, 2d ed.***, edited by Robert L. Craig, pp. 1.3-1.14. New York: McGraw-Hill, 1976.

Stubblefield, H. W. ***Towards a History of Adult Education in America: The Search for a Unifying Principle***. London, New York and Sydney: Croom Helm, 1988.

Stubblefield, H. W., and Keane, P. ***Adult Education in the American Experience: From the Colonial Period to the Present***. San Francisco: Jossey-Bass Publishers, 1994.

Tannenbaum, S., and Yukl, G. "Training and Development in Work Organizations."***Annual Review of Psychology*** 43 (1992): 399-441.

Taylor, F. W. ***The Principles of Scientific Management.*** New York: Norton, 1967.

Thomas, R., and Kochan, T. "Technology, Industrial Relations, and the Problem of Organizational Transformation." In ***Technology and the Future of Work***, edited by P. S. Adler, pp. 210-231. New York: Oxford University Press, 1992.

Tilles, S. "Managers' Jobs: A Systems Approach." ***Harvard Business Review*** 41, no 1 (January-February 1963): 73-81.

Tobin, D. R. ***Knowledge-enabled Organization: Moving from "Training" to "Learning" to Meet Business Goals.*** New York: AMACOM, 1998.

Tomasko, E., and Dickinson, K. "The UAW-Ford Education, Development and Training Program.' In ***Joint Training Programs: A Union-Management Approach to Preparing Workers for the Future***, edited by L. Ferman, M. Hoyman, J. Cutcher-Gershenfeld, and E. Savoie, pp. 55-70. Ithaca, NY: ILR Press, 1991. (ERIC Document Reproduction Service No. ED 345 031)

Treinen, D., and Ross, K. "The Alliance for Employee Growth and Development Inc." In ***Joint Training Programs: A Union-Management Approach to Preparing Workers for the Future***. edited by L. Ferman, M. Hoyman, J. Cutcher-Gershenfeld, and E. Savoie, pp. 31-54. Ithaca, NY: ILR Press, 1991. (ERIC Document Reproduction Service No. ED 345 031)

United Auto Workers. ***Bargaining 96–1996 GM Contract Highlights***. Detroit: UAW, 1996.

United Auto Workers. ***UAW GM and Delphi Report–Highlights of the UAW GM and Delphi 1999 Agreement***. Detroit: UAW, 1999.

U.S. Congress. ***Worker Training: Competing in the New International Economy***. Washington, DC: Office of Technology Assessment, U.S. Congress, 1990. (ERIC Document Reproduction Service No. ED 326 622)

U.S. Department of Labor. ***Road to High Performance Workplaces: A Guide to Better Jobs and Better Business Results***. Washington, DC: Office of the American Workplace, DOL, 1994. (ERIC Document Reproduction Service No. ED 380 641)

Veum, J. R. "Sources of Training and Their Impact on Wages." ***ILR Review.*** 48, no. 4 (July 1995): pp. 812-826. (ERIC No. EJ 507 770)

Walton, R. E. "From Control to Commitment in the Workplace." ***Harvard Business Review*** 85, no. 2 (March-April 1985): 77-84. (ERIC Document Reproduction Service No. ED 339 865)

Warren, A. "Quality of Work Life at GM.." In ***Teamwork: Joint Labor-Management Programs in America***, edited by J. M. Rosow, pp. 119-132. New York: Pergamon Press, 1986.

References

Watkins, K. E., and Marsick, V. J. ***Sculpting the Learning Organization: Lessons in the Art and Science of Systematic Change***. San Francisco: Jossey-Bass Publishers, 1993

Weekley, T., and Wilber, J. ***United We Stand—The Unprecedented Story of the GM-UAW Quality Partnership***. New York: McGraw-Hill, 1996.

Womack, J. P.; Jones, D.; and Roos, D. ***The Machine that Changed the World.*** New York: Rawson Associates, 1990.

Defining the Future or Reliving the Past? Unions, Employers, and the Challenge of Workplace Learning

by Howard Harris

Examines the evolution of employer-dominated training within the current context of the changing workplace. Makes the case for workplace learning to be worker centered, addressing the role of workers, labor unions, and adult educators.

Order No. IN 380, $8.50

Ordering Information

To order additional copies, please use order number and full title of publication. Orders should be made by school/agency purchase order, letterhead, or prepayment. Personal orders must be prepaid. Make remittance payable to the Center on Education and Training for Employment. Mail order to:

Center on Education and Training for Employment
Center Publications
1900 Kenny Road
Columbus, OH 43210-1090

Phone:	614/292-4277
Toll Free:	800/848-4815, ext. 24277
Fax:	614/292-1260
Web:	http://cete.org/products/index.html

Full payment is due 30 days after receipt of materials and invoice. All payments must be made in U.S. dollars.

Credit Cards
To charge your purchase, indicate either VISA or MasterCard and provide card number, expiration date, amount to be charged, name as it appears on card, telephone number, authorized signature, and the current date.

Quantity Discounts
Orders of 10 or more items, as listed by publication number and title, with a total dollar value for the order of: **$201 to $300, the discount is 5%; $301 to $400, the discount is 10%; $401 and above, the discount is 15%.**

Shipping and Handling
Prices include standard shipping and handling by the best direct method within the continental United States. Priority and international shipments will be charged at actual shipping costs plus a $5 handling fee. Prices listed are in effect at the time of publication of this book. Prices are subject to change without notice.